DOCUMENT RESUME

ED 335 380 TM 016 993

TITLE	Statewide Test Results: Summary Report, Spring 1990. Delaware Educational Assessment Program.
INSTITUTION	Delaware State Dept. of Public Instruction, Dover. Div. of Research, Planning, and Evaluation.
PUB DATE	90
NOTE	62p.
AVAILABLE FROM	Bureau of Archives and Records, Hall of Records, P.O. Box 1401, Dover, DE 19903 (microfiche).
PUB TYPE	Statistical Data (110) -- Reports - Evaluative/Feasibility (142)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	*Achievement Tests; Comparative Analysis; Elementary Secondary Education; Graphs; Language Tests; Mathematics Tests; Performance; Public Schools; Reading Tests; *Standardized Tests; *State Programs; Tables (Data); Testing Programs; *Test Results; Thinking Skills
IDENTIFIERS	*Delaware Educational Assessment Program; *Stanford Achievement Tests

ABSTRACT

Information is provided about the Delaware Educational Assessment Program and the performance of Delaware public school students as measured by a nationally-normed standardized achievement test. The Stanford Achievement Test, Eighth Edition was administered statewide, allowing comparisons with national performance and with the performance of Delaware students in the preceding year. Students were tested in grades 1 through 8 and in grade 11. Testing covered the content areas of reading, language, and mathematics, with supplemental testing in science and social studies in grade 11, and testing of higher order thinking skills from grade 3 through grade 11. Test results summarized in this report indicate that the average Delaware student was performing above the national norm in all content areas as well as in thinking skills. Two-year comparisons with other Delaware students indicated that achievement generally improved, with a decrease in scores noted for only one group and one content area. Twelve tables present student test results, and three extensive figures illustrate comparisons. Except as specifically noted in two data tables, this report provides results that are average scores for regular and special education students combined. Results are also provided for Delaware's 17 school districts. (SLD)

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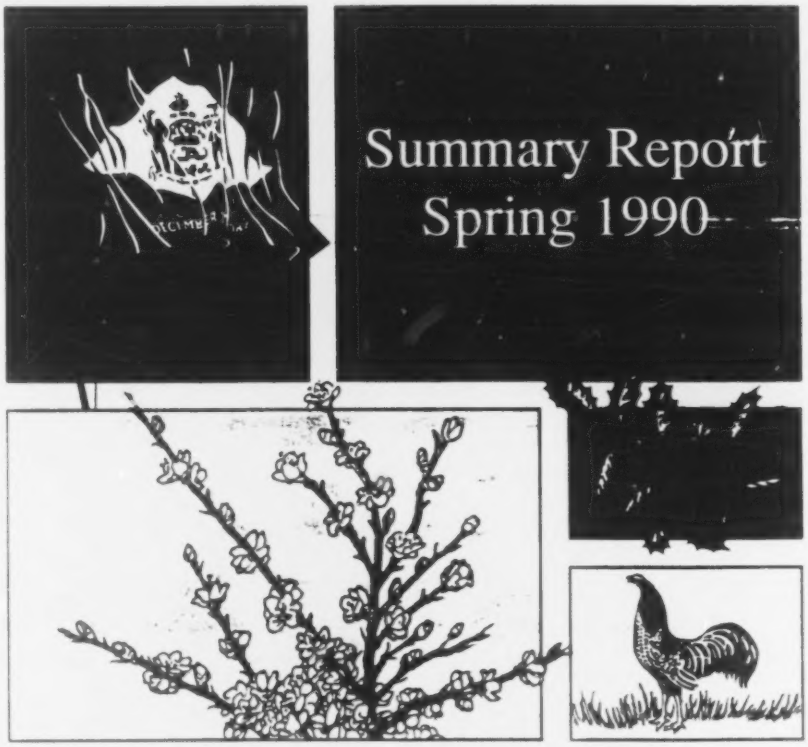
DELAWARE
EDUCATIONAL ASSESSMENT PROGRAM

STATEWIDE TEST RESULTS



Delaware Department of Public Instruction
Research and Evaluation Division
Dover, Delaware

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Document No. 95-01/90/06/09
R & E No. 90-1

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Dear Friends,

It is my pleasure to present the summary results of the Spring 1990 Delaware Educational Assessment Program. This year the Stanford Achievement Test, Eighth Edition was once again administered statewide, allowing us to make comparisons not only between Delaware students and those nationwide but also with the performance of Delaware students last year.

As the results in this report indicate, the average Delaware student is performing above the national norm in reading, mathematics, and language arts at each grade level tested. Average scores for higher-order thinking skills are likewise consistently above the national norm. Perhaps even more important is the improvement in achievement results as evidenced by generally higher average test scores, an increase in the percent of Delaware students scoring in the highest quartile, and a decrease in the percent of Delaware students scoring in the lowest quartile.

Both the national education goals for the 1990's and the State Board of Education's draft goals for the 1990's stress the need for accountability and an honest assessment of student, school, district, and state progress. Since 1978, the Delaware Educational Assessment Program has provided annual student performance data at the state, district, school, and pupil levels for grades 1-8 and 11. While the scope of the standardized testing component of the state assessment program will change next year, it will continue to serve as a valuable tool for measuring the attainment of educational objectives.

The success of the Delaware Educational Assessment Program is attributable to the joint efforts of many people within the Department of Public Instruction and the school districts. Department of Public Instruction staff in the Research and Evaluation Division with responsibility for the program include:

Wilmer E. Wise, *State Director of Research and Evaluation Division*
Larry Gabbert, *State Supervisor of Educational Assessment*
Kaye R. McCann, *State Specialist of Educational Assessment*
Gail R. Truxon, *Secretary of Research and Evaluation Division*

Recognition is also extended to the following individuals who served as District Test Coordinators for the 1989-90 school year:

Howard Gaines, *Appoquinimink*
Joseph Price, *Brandywine*
George Benner, *Caesar Rodney*
Gary Wray, *Cape Henlopen*
Robert Hall, *Capital*
Robert Bigelow, *Christina*
Richard Bulls, *Colonial*
Claudia Franceschi, *Delmar*
Judith Cullen, *Indian River*
Arthur Gilbert, *Lake Forest*
William Long, *Laurel*
Robert Sutcliffe, *Milford*
William Kehoe, *NCC Voc-Tech*
William Wallace, *Red Clay Consolidated*
Shirley Butler, *Seaford*
Randall Hansen, *Smyrna*
Charles Parks, *Woodbridge*

Respectfully,

William B. Keene

William B. Keene
State Superintendent
Delaware Department of Public Instruction

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DELAWARE EDUCATIONAL ASSESSMENT PROGRAM

Introduction

This report is designed to provide the education community and the general public with information about the Delaware Educational Assessment Program and the performance of Delaware public school students as measured by a nationally-normed standardized achievement test. The first section of the report provides background information on the program and a description of the assessment instrument used to measure the achievement of Delaware public school students. The following sections report the results of the 1990 assessment.

What Is The Delaware Educational Assessment Program?

The Delaware Educational Assessment Program is administered by the Research and Evaluation Division of the Department of Public Instruction. The division is responsible for conducting the assessment program to assist with improving educational accountability at the school, district, and state levels. One important component of this program is the annual administration of standardized achievement tests and the subsequent reporting of results. Some of the more important features of this component of the program include:

- Statewide standardized testing in grades 1 through 8 and 11 in the content areas of reading, language, and mathematics
- Testing of Higher Order Thinking Skills
- Supplemental testing in science and social science in grade 11
- Reporting of individual achievement to parents
- Reporting of test results at the school, district, and state levels by grade and content area
- Analysis of test results by school district staff and the development of a plan to remedy identified weaknesses.

Relative to this last feature, the State Superintendent of Public Instruction provides a detailed report to the Delaware General Assembly each year. This report which will be available in December 1990 includes individual school results, local district analyses of strengths and weaknesses, and district plans to remedy identified areas of weakness.

In addition, the program undertakes activities to increase the usefulness of test data. To this end, the program:

- provides training to school personnel in the use and interpretation of test data in curriculum and instructional improvement
- maintains a student tracking system and a computerized system for school personnel to use in accessing student test data for program management and evaluation

- produces reports for classroom teachers organized by current homeroom or instructional group. These reports are especially useful at the beginning of the school year in analyzing the strengths and weaknesses of students entering new classrooms. In 1989-90, approximately 50 schools requested reports for about 1300 groups of students.

Why Do We Test?

The Delaware Educational Assessment Program strives to be responsive to the needs of students, teachers, and administrators for student performance data in order to improve the quality of education received by each student. Student performance data is useful as one criterion for:

- diagnosing individual pupil strengths and weaknesses
- placing students in instructional groups or programs
- guidance and counseling
- identifying curricular and instructional weaknesses
- instructional planning
- evaluating programs
- conducting research studies.

What Type Of Test Is Used?

For the first five years of its existence, the Delaware Educational Assessment Program administered the California Achievement Tests (CAT), normed in 1977. In the 1983-84 school year, a new test battery, the Comprehensive Tests of Basic Skills (CTBS), was administered for the first time. This test, which was normed in 1981, was used statewide from 1984 through 1988.

In the 1988-89 school year, a new test battery, the Stanford Achievement Test, Eighth Edition (Stanford 8) was administered statewide for the first time. Norms for this test were established in 1988. The Stanford 8 currently has two parallel forms, J and K. Form J was administered in 1988-89. Form K, a secure form reserved for large-scale assessment programs, was administered this year.

In excess of 64,000 Delaware public school students were tested during the period March 19-30, 1990.

What Students Are Tested?

The statewide standardized testing program includes all regular and special education students with the exception of students in special schools or intensive learning centers. State policy mandates that all mainstreamed special education students participate in the statewide testing program. Exclusion can be determined, however, by the student's IEP team for the following reasons: (1) a severe overreaction to testing, (2) a moderate to severe learning disability or social/emotional maladjustment, (3) a physical handicap preventing testing, or (4) an inability to speak English.

Except as specifically noted in Tables 8 and 9, the results in this report for this year's test are average scores for regular and special education students combined.

How Were Tests Administered?

While the Delaware Educational Assessment Program staff is responsible for managing test administration, scoring, and reporting, the responsibility for carrying out the program rests with all levels of the professional education community. Each school district designates a test coordinator to organize and coordinate testing within the district. Within each school a professional staff member is responsible for supervising testing. In most cases, teachers serve as test examiners and proctors.

All of these educators are crucial to the successful implementation of the statewide testing program.

How Is The Stanford 8 Organized?

The Stanford Achievement Test, Eighth Edition, is a series of nationally-normed standardized tests published by The Psychological Corporation. The Stanford 8 was normed in the spring and fall of 1988 on a representative national sample of over 400,000 students. Delaware was represented in the 1988 sample.

The Stanford 8 provides a different level of test for each grade, with no repetition of test items. In grades one through three, students record their responses directly in their test booklets, while students in grades four through eight and eleven receive test booklets with separate answer sheets.

What Content Areas Are Tested?

The skill and content areas assessed in Delaware by the Stanford 8 are shown in Table 1.

Table 1
Skill and Content Areas Tested In Delaware By The Stanford Achievement Test, Eighth Edition

Areas	Grades	Test/Subtest Descriptions
Receptive Communication		
Listening	1-8	Measures the student's understanding of word meanings and the ability to remember, understand, and organize information that has been heard.
Reading	1	Word Reading - Measures the student's ability to recognize words and understand their meanings.
	1-3	Word Study Skills - Measures the student's ability to understand the relationship between sounds and letters in words and to recognize useful word parts.
	1-8 and 11	Reading Comprehension - Measures the student's ability to read and understand printed material. At the first grade level, the subtest has riddles and short paragraphs followed by questions. At all other levels, students answer questions about reading matter similar to that read in school, in everyday life, and on their own for fun.
	2-8 and 11	Reading Vocabulary - Measures the student's knowledge of word meanings and the ability to choose the correct meaning of a word based on how the word is used.
Mathematics	1-8 and 11	Measures the student's mathematic competence with emphasis on concepts of number, computation skills, and the application of these concepts and skills to solving problems.
Language/English	1-8 and 11	Measures the student's ability to use language mechanics such as capitalization and punctuation and language expression skills such as identifying correct grammar, appropriate sentence structure and clear writing style.
Spelling	1-8 and 11	Measures the student's ability to select the misspelled word in each group of four words or phrases. At the first grade level, this subtest is dictated and the student chooses which of three spellings of a word is the correct one.
Study Skills	3-8 and 11	Measures the student's ability to use library and reference skills as well as skills in locating and organizing information.

Table 1 (Continued)

Areas	Grades	Test/Subtest Descriptions
Science	11	Measures the student's ability to understand some of the ideas and skills learned in the areas of physical, biological, and earth/space science.
Social Science	11	Measures the student's ability to understand some of the ideas and skills learned in geography, history, political science, economics, psychology, sociology, and anthropology.
Higher Order Thinking Skills*		
Using Information	3-8 and 11	Measures the student's knowledge of such skills as alphabetizing, using the dictionary, using reference sources, and understanding maps, graphs, and charts.
Thinking Skills	3-8 and 11	Measures the student's ability to make inferences, draw conclusions, determine relationships, predict outcomes, classify, and evaluate.

* *Scores for Higher Order Thinking Skills are derived from items that are embedded in some of the subtests. The Using Information score is derived from items in the Mathematics Applications, Study Skills, Science, and Social Science subtests. The Thinking Skills score is derived from selected items in the Reading Comprehension, Concepts of Number, Mathematics Applications, Study Skills, Listening, Science, and Social Science subtests.*

At grades one and two, students take one language test called simply Language. This one test does, however, assess students on both language mechanics and language expression skills. Similarly, at grade eleven students take one test called English that is composed of items assessing both language mechanics and expression. Eleventh grade students also take only one mathematics test called simply Mathematics. This test contains items that assess student achievement in concepts of number, mathematics computation, and mathematics applications.

How Is The Stanford 8 Different?

Listening Skills. One feature that makes the Stanford 8 unique among achievement tests is that it is designed to provide total assessment of receptive communication. Reading and listening are the two receptive modes of communication and interact heavily in a student's learning environment. The Stanford 8 is the only major achievement test to assess both reading and listening. Reading is tested at grades 1-8 and 11; listening is tested at grades 1-8. Listening is a basic functional skill and many state and local curricula, including that in Delaware, now recognize the need to prepare students with skills in understanding, retaining, and organizing information

that has been heard. In all grades, listening effectiveness is critical to learning in the content areas. Poor listening skills, like poor reading or study skills, can contribute to low achievement in other areas.

Higher Order Thinking Skills. A second valuable feature of the Stanford 8 is the generation of two supplemental scores for grades 3-8 and 11. No additional testing time was required to produce these scores. Items throughout the test battery that measure thinking skills and the ability to use information are combined into two special scores, Thinking Skills and Using Information.

Literature in the fields of curriculum and instruction indicates support for including thinking skills in the content area curricula. On the Stanford 8, both thinking skills and study/inquiry skills are tested in the same fashion they should be taught—in context. This makes assessment of these skills more realistic and consistent with instruction. By providing a thinking skills score, the Stanford 8 measures student ability to go beyond comprehension in the learning process, assessing such skills as making inferences, drawing conclusions, determining relationships, predicting outcomes, classifying, and evaluating.

How Are Scores Reported?

Reports of test results were generated at the individual pupil, school, district, and state levels. Student, school, and district level reports were returned to Delaware educators before the end of the school year and are available over the summer months for instructional planning. Reports for parents and teachers provide performance data for individual students while reports for principals, district administrators, and state administrators provide data for groups of students.

Test scores at the individual and group levels are reported for component subtests and total area tests. Tests and component subtests vary somewhat by grade. That is , except at grade 11 where students take only one mathematics test, in addition to the Total Mathematics score, scores are also reported for the subtests Concepts of Number, Mathematics Computation, and Mathematics Applications. For language, scores are reported for Total Language, Language Mechanics and Language Expression, except at grades 1, 2, and 11 where only one language test score is reported. In reading, scores are reported for Total Reading and for the subtests Reading Comprehension, Reading Vocabulary, Word Study Skills (grades 1-3) and Word Reading (grade 1). Scores are also reported for Spelling, Study Skills, Listening, Science, and Social Science. A Total Basic Battery score is reported for grade groups and for individual students who completed all component subtests, excluding Science and Social Science. A Complete Battery Score is available for grade 11 students only, compiled from all subtest scores including Science and Social Science.

What Type Of Test Score Is Reported?

The score used in this report is the Normal Curve Equivalent (NCE). The NCE is a standard score scale with a national average of 50, a range of scores from 1 to 99 and a standard deviation of 21.06. This scale was selected

because it enables comparisons to be made between different subtests and to the national average for all grades tested. When reading this report, scores can be put in perspective by comparing the test score to the national average. Average scores higher than 50 are above the national norm.

What Kinds Of Score Reports Are Provided?

Although only NCE scores are reported in this publication, the reports made available to parents and education personnel contain a variety of scores. For example:

Parent Reports. These reports show district, state, and national percentile scores allowing parents to compare their child's test performance with that of various groups. Reports also include a narrative description of test results and a graph of percentile bands.

Student Skills Analysis Reports with Objectives Performance. These reports provide classroom teachers with district, state, and national percentile scores and NCE scores on individual students. Score profiles in percentile bands permit the quick identification of a student's relative strengths and needs by subject area or domain. In addition, student performance on content clusters is reported as below average, average, or above average, enabling the teacher to identify relative strengths and needs within a subtest content area.

Master Lists of Test Results. These reports provide teachers and administrators with a variety of score types for individual students. Scores included in this report are the raw score, scale score, the grade equivalent score, the normal curve equivalent and national, state, and district percentile scores and stanines . Students are listed alphabetically by grade at the school level.

Administrators Data Summary Reports. These reports provide statistical summaries at the school, district, and state level for each grade tested. They not only provide average scores by content area but also provide data by quartile.

Frequency Distribution Reports. These reports provide administrators with frequency and cumulative frequency data on the distribution of student achievement scores at the school, district, and state levels.

Item Analysis Reports. These reports, provided at each level of aggregation, allow administrators to analyze instructional strengths and areas of need at the category objective level.

1990 ASSESSMENT RESULTS
STATE AND DISTRICT

State Results In Basic Skills Areas

Performance of Delaware students as a whole (regular and special education combined) compares favorably with the 1988 Stanford 8 national norms. The average NCE scores of Delaware students by grade for all content areas tested are shown in Table 2.

Reading. Statewide averages for Total Reading and its component subtests were above the national norm in grades 1-8 and 11. Reading Comprehension scores exceeded Reading Vocabulary scores, with differences being the greatest (2.4 NCEs) at grades 2 and 3.

Language. Statewide averages for Total Language and its component subtests of Language Mechanics and Language Expression were above the national norm at all grades tested. With the exception of grade 8, Language Expression scores exceeded Language Mechanics scores for those grades taking the two subtests. The greatest differences were at grades 4 and 5. Total Language scores were higher than Total Reading Scores at all grades tested except grade 11, with the greatest differences noted in grades 1 through 4. Total Language scores exceeded Total Mathematics scores in all grades except grade 7, with the largest differences occurring at grades 1 and 2.

Mathematics. Statewide averages for Total Mathematics were above the national norm at all grades tested. State averages for the component subtests of Concepts of Number, Mathematics Computation, and Mathematics Applications similarly exceeded the national norm of 50 at the eight grade-levels taking these three subtests.

Science and Social Science. Delaware students in grade eleven scored above the national norm in both the Science and Social Studies tests. No subtest scores are available.

Basic Skill Summary. Average Delaware student performance was above the national norm at all grade levels on the Total Basic Battery. Average student performance in Reading, Mathematics, and Language was also above the national norm in all grades tested.

State Results In Higher Order Cognitive Skills

Using Information - Statewide averages for Using Information were above the national norm in all 7 grades tested (3 - 8 and 11).

Thinking Skills - Statewide averages for Thinking Skills were above the national norm in all of the 7 grades tested.

State Results By Objective

More detailed component objective data are shown in Table 3 by content area. Entries labeled percent correct are averages of the percent of students responding correctly to each of the items testing that objective. These data are for the combination of Delaware regular and special education students and for the

national sample.

An analysis of the data contained in Table 3 reveals that generally Delaware students as a whole more frequently provided correct responses to items measuring objective clusters than did students from the national sample. When compared with the national sample, a higher percent of Delaware students provided correct responses on 91% (75/82) of the objective clusters in reading across the grades. Similarly, a higher percent of Delaware students responded correctly on 86% (80/93) of the cluster objectives in mathematics, 92% (35/38) of the cluster objectives in language arts, 93% (25/27) of the cluster objectives in spelling, 50% (8/16) of the cluster objectives in listening, and 86% (30/35) of the cluster objectives in higher order thinking. When compared with the national sample, a higher percent of Delaware students provided correct responses for all of the cluster objectives in study skills, science (grade 11), social science (grade 11), and using information.

Table 2
Stanford Achievement Test, 8th Edition
Average NCE Scores For Delaware Students, 1990
Regular and Special Education Students Combined

Content Areas	Grades								
	1	2	3	4	5	6	7	8	11
Word Reading	51.3	-	-	-	-	-	-	-	-
Word Study Skills	54.7	53.7	52.9	-	-	-	-	-	-
Reading Vocabulary	-	51.9	51.7	51.0	52.6	51.1	51.1	51.1	53.4
Reading Comprehension	52.7	54.3	54.1	52.1	52.8	51.6	51.4	52.2	54.6
TOTAL READING	**53.3**	**53.6**	**53.4**	**51.7**	**53.0**	**51.7**	**51.3**	**51.5**	**54.2**
Concepts of Number	54.1	56.1	54.1	53.1	51.4	51.0	51.2	51.7	-
Mathematics Computation	54.1	55.5	54.6	55.3	52.2	50.4	52.1	51.6	-
Mathematics Applications	52.9	57.0	53.6	52.1	52.7	50.8	50.8	51.9	49.9
Mathematics	-	-	-	-	-	-	-	-	52.2
TOTAL MATHEMATICS	**54.3**	**57.1**	**54.7**	**54.2**	**52.6**	**51.0**	**51.9**	**52.3**	**52.2**
Language	58.3	59.1	-	-	-	-	-	-	-
Language Mechanics	-	-	55.8	53.6	52.8	52.7	50.8	53.3	-
Language Expression	-	-	56.3	56.2	54.8	53.1	51.6	51.6	-
English	-	-	-	-	-	-	-	-	52.3
TOTAL LANGUAGE/ENGLISH	**58.3**	**59.1**	**55.9**	**55.0**	**53.9**	**52.9**	**51.6**	**52.8**	**52.3**
Spelling	50.3	53.7	54.1	51.9	52.9	52.0	51.3	49.6	51.5
Study Skills	-	-	53.3	53.1	52.6	52.0	52.6	51.7	54.6
Listening	52.0	53.6	52.9	50.3	51.0	50.6	49.2	52.4	-
BASIC BATTERY	**54.9**	**56.4**	**55.4**	**53.6**	**53.5**	**51.9**	**51.8**	**52.2**	**53.8**
Science	-	-	-	-	-	-	-	-	52.7
Social Science	-	-	-	-	-	-	-	-	53.2
COMPLETE BATTERY	-	-	-	-	-	-	-	-	**53.8**
HIGHER ORDER THINKING SKILLS									
Using Information	-	-	54.1	53.0	52.8	52.3	52.5	51.6	53.9
Thinking Skills	-	-	54.7	52.5	53.1	51.9	50.9	52.4	53.3

Table 3
Percent Of Correct Responses By Objective
Delaware/National Norm Group
Spring 1990

Reading

Category / Objective	Grades 1 DE/NAT	2 DE/NAT	3 DE/NAT	4 DE/NAT	5 DE/NAT	6 DE/NAT	7 DE/NAT	8 DE/NAT	11 DE/NAT
WORD READING	**68/64**								
Match Three Printed Words with a Picture	68/64								
WORD STUDY SKILLS	**69/63**	**74/71**	**76/74**						
Structural Analysis	83/80	92/90	91/89						
Phonetic Analysis-Consonants	76/65	77/73	77/76						
Phonetic Analysis-Vowels	47/43	60/56	65/63						
READING COMPREHENSION	**60/55**	**60/55**	**63/59**	**64/63**	**62/59**	**62/60**	**61/60**	**64/63**	**68/64**
Two-Sentence Stories	72/67								
Short Reading Passages	71/67								
Short Reading Passages/Questions	49/43								
Recreational		65/60	64/60	64/62	63/60	63/61	67/66	64/63	63/59
Textual		55/51	56/52	61/59	57/54	57/56	50/50	58/57	62/57
Functional		60/56	70/66	67/66	67/64	66/65	65/63	70/68	78/74
Literal			60/56	67/66	65/62	70/68	61/59	66/65	71/66
Inferential			67/63	64/62	60/57	57/55	60/59	63/62	68/64
Critical			64/59	54/54	65/63	59/57	64/63	63/62	63/59
READING VOCABULARY		**63/60**	**64/62**	**63/63**	**69/67**	**65/64**	**68/67**	**68/68**	**66/63**
Synonyms		63/61	64/63	61/62	65/64	61/61	59/60	60/62	59/58
Context		**61/54**	**61/57**	**66/66**	**73/71**	**69/67**	**75/73**	**72/72**	**71/66**
Multiple Meaning		69/63	65/63	64/63	76/73	75/73	78/76	80/78	73/70

Table 3 Continued
Mathematics

Category / Objective	Grades 1 DE/NAT	2 DE/NAT	3 DE/NAT	4 DE/NAT	5 DE/NAT	6 DE/NAT	7 DE/NAT	8 DE/NAT	11 DE/NAT
CONCEPTS OF NUMBER	**64/59**	**68/63**	**65/62**	**62/59**	**56/53**	**57//55**	**58/56**	**60/58**	
Whole Numbers	67/62	70/65	66/64	64/61	63/61	65/61	60/57	59/56	
Fractions	61/56	60/54	76/73	46/47	48/49	55/56	65/63	70/69	
Operations and Properties	58/53	67/61	62/56	62/58	50/47	53/50	55/51	54/52	
Decimals				75/72	62/57	54/55	58/57	60/60	
Percent							58/63	59/58	
Integers							56/56	66/63	
MATHEMATICS COMPUTATION	**64/57**	**65/59**	**66/61**	**64/59**	**62/60**	**56/55**	**60/58**	**60/59**	
Add with Whole Numbers	67/60	75/71	80/75						
Subtraction with Whole Numbers	61/54	65/59	66/59						
Add/Subtraction with Whole Numbers				75/69					
Multiplication with Whole Numbers		56/47	63/59	67/63					
Division with Whole Numbers		29/18	52/48	58/55					
Add/Subtraction with Decimals				55/47					
Add/Subtraction with Fractions				51/44					
Computation with Whole Numbers					69/66	67/65	73/70	75/73	
Computation with Decimals					57/55	59/58	58/58	62/61	
Computation with Fractions					51/51	40/41	54/51	54/54	
Number Sentences/Proportions					56/56	63/60			
Computation with Percent							42/42	45/43	
Equations and Proportions							56/51	54/51	
MATHEMATICS APPLICATIONS	**62/58**	**67/61**	**63/59**	**62/59**	**58/56**	**58/57**	**57/57**	**56/55**	
Problem Solving	56/53	65/59	58/55	60/57	60/58	61/60	59/58	58/57	
Graphs	61/58	75/70							
Geometry/Measurement	67/62	66/59	68/63	59/58	52/51	48/47	52/51	52/50	
Graphs and Charts			69/64	77/73					
Graphs and Tables					62/60	72/69	64/62	57/56	
MATHEMATICS									**50/48**
Concepts of Number									51/47
Computation									57/53
Applications									45/44

Table 3 Continued
Language/English

Category / Objective	Grades 1 DE/NAT	2 DE/NAT	3 DE/NAT	4 DE/NAT	5 DE/NAT	6 DE/NAT	7 DE/NAT	8 DE/NAT	11 DE/NAT
LANGUAGE	**64/55**	**76/68**							
Language Mechanics	66/57	77/69							
Language Expression	61/51	71/63							
Study Skills/ABC Order	71/63	86/82							
LANGUAGE MECHANICS			**71/66**	**72/70**	**68/65**	**68/66**	**63/62**	**65/62**	
Capitalization			73/68	65/63	63/63	65/63	69/69	73/70	
Punctuation			65/60	75/71	64/59	64/62	57/55	61/57	
Applied Grammar			76/72	74/72	75/72	74/72	63/65	63/62	
LANGUAGE EXPRESSION			**72/66**	**69/64**	**66/63**	**63/61**	**60/58**	**66/64**	
Sentence Correctness			67/61	65/60	63/59	58/56	56/55	64/62	
Sentence Effectiveness			81/77	78/72	72/70	73/70	68/65	71/68	
ENGLISH									**58/55**
Language Mechanics									55/53
Language Expression									60/56

Study Skills

Category / Objective	Grades 1 DE/NAT	2 DE/NAT	3 DE/NAT	4 DE/NAT	5 DE/NAT	6 DE/NAT	7 DE/NAT	8 DE/NAT	11 DE/NAT
STUDY SKILLS			**64/60**	**67/64**	**66/64**	**66/64**	**67/66**	**66/65**	**65/61**
Library/Reference Skills			63/59	68/65	70/67	69/67	73/72	70/67	68/65
Information Skills			66/62	66/62	61/59	63/62	62/60	63/62	61/56
Organizing Information									67/64

Table 3 Continued
Spelling

Category / Objective	Grades 1 DE/NAT	2 DE/NAT	3 DE/NAT	4 DE/NAT	5 DE/NAT	6 DE/NAT	7 DE/NAT	8 DE/NAT	11 DE/NAT
SPELLING	**63/60**	**66/62**	**68/64**	**61/59**	**62/59**	**59/56**	**60/58**	**62/62**	**63/61**
Sight Words	66/61	78/74	67/66						
Phonetic Principles	65/64	65/60	71/67	62/60	66/62	61/58	59/58	66/65	66/64
Structural Principles	53/49	59/57	65/61	57/55	57/54	59/56	59/58	62/62	68/65
Homophones				67/63	63/62	56/53	63/60	54/55	51/49

Listening

Category / Objective	Grades 1 DE/NAT	2 DE/NAT	3 DE/NAT	4 DE/NAT	5 DE/NAT	6 DE/NAT	7 DE/NAT	8 DE/NAT	11 DE/NAT
LISTENING	**65/66**	**68/66**	**67/65**	**62/62**	**65/65**	**66/65**	**62/63**	**68/68**	
Vocabulary	68/68	63/62	62/60	58/58	61/62	61/60	60/61	61/61	
Listening Comprehension	66/65	71/68	70/68	64/64	67/66	69/68	62/64	71/71	

Science and Social Science

Category / Objective	Grade 11 DE/NAT	Category / Objective	Grade 11 DE/NAT
SCIENCE	**56/53**	**SOCIAL SCIENCE**	**59/56**
Physical	53/50	Geography	55/52
Biological	61/59	History	56/55
Earth/Space	53/50	Political Science	60/55
Inquiry Skills	55/52	Economics	57/53
		Psychology/Sociology/Anthropology	68/65
		Inquiry Skills	58/56

Table 3 Continued
Thinking Skills

Category / Objective	Grades 1 DE/NAT	2 DE/NAT	3 DE/NAT	4 DE/NAT	5 DE/NAT	6 DE/NAT	7 DE/NAT	8 DE/NAT	11 DE/NAT
THINKING SKILLS			**61/58**	**61/59**	**58/56**	**61/59**	**57/57**	**61/60**	**57/54**
Reading Comprehension			62/59	62/60	57/55	61/58	59/60	65/64	63/60
Concepts of Number			51/47	51/49	48/45	60/57	51/49	52/51	
Mathematics Applications			63/57	62/57	58/54	61/59	56/56	52/51	
Study Skills			63/60	70/67	66/63	62/60	59/56	67/64	63/60
Listening			64/62	57/59	61/60	59/58	55/58	66/66	
Mathematics									48/46
Science									55/53
Social Science									59/56

Using Information

Category / Objective	Grades 1 DE/NAT	2 DE/NAT	3 DE/NAT	4 DE/NAT	5 DE/NAT	6 DE/NAT	7 DE/NAT	8 DE/NAT	11 DE/NAT
USING INFORMATION			**65/61**	**69/65**	**65/63**	**67/65**	**67/65**	**65/63**	**61/58**
Mathematics Applications			69/64	77/73	62/60	72/69	64/62	57/56	
Study Skills			64/60	67/64	66/64	66/64	67/66	66/65	65/61
Science									55/52
Social Science									58/56

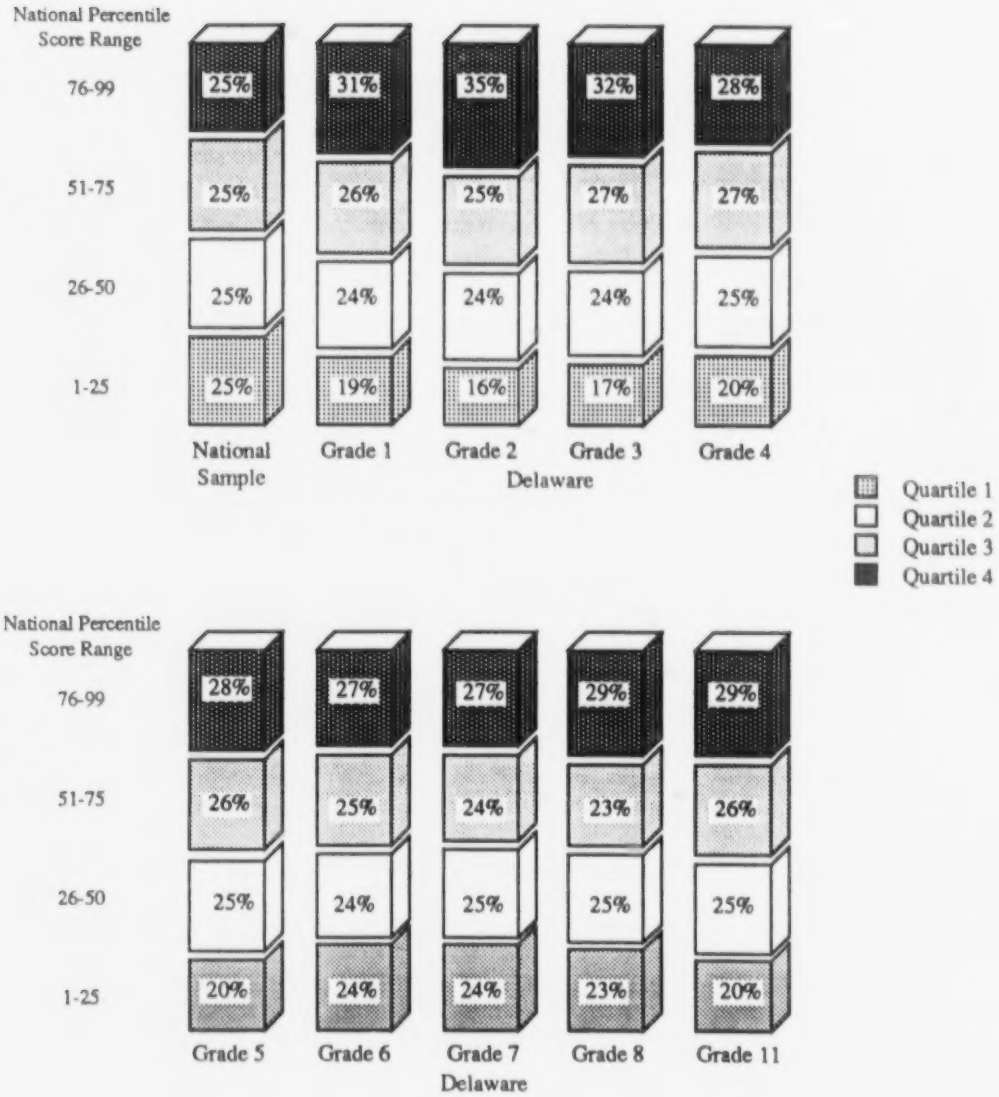
State Results For Basic Battery By Quartile

By itself, a mean NCE score, or any "average" score, can provide limited, and sometimes misleading, information about a group's test performance because it tells nothing about the distribution or "spread" among individual scores. An analysis of student scores by quartiles can be an effective means of describing the "spread" of scores.

Quartiles are defined according to national percentile score ranges with Quartile 1 spanning national percentile scores ranging from 1 to 25, Quartile 2 spanning scores from 26 to 50, Quartile 3 spanning scores from 51 to 75, and Quartile 4 spanning scores from 76 to 99. In other words, 25 percent of the national standardization group falls into each of the four quartiles.

Figure 1 provides a graphic display of the percent of Delaware students scoring in each quartile on the Basic Battery of the Stanford 8. The graph shows that, when compared with the national sample, a higher percent of Delaware students, from 27% at grades 6 and 7 to 35% at grade 2, scored in the highest quartile. When compared with the national sample, a lower percent of Delaware students, from 16% at grade 2 to 24% at grades 6 and 7, scored in the lowest quartile.

Figure 1
Percent of Delaware Students in Each Quartile
Basic Battery



District Results

Differences between district test averages should be reviewed in light of important factors which interact to make each district unique. Factors to be considered in this review may include characteristics of the student body such as student mobility, dropout rate, student ability, the match between curriculum objectives and the objectives assessed by the test, local curriculum priorities and available financial resources. Data on some of these factors are presented in Table 4. Another factor that may relate to school and district test scores is selectivity in testing. Tables 5 and 6 show the percentage of eligible students actually tested, and the percentage of students who had one or more subtests invalidated by the test examiner.

District average scores for Reading, Language, Mathematics, Listening, Thinking Skills, and the Total Basic Battery are presented by grade level in Table 7. Table 7 also shows district average scores for Science, Social Science and Complete Battery for grade eleven students. The comparison of average district performance to national norms and the identification of trends in performance help local school officials detect strengths and weaknesses in their district educational programs.

Table 4
Some Factors That Relate To District Test Averages

District	Percent Free or Reduced Lunch	Annual Dropout Rate (Grades 9-12)	Current Expenditures Per Pupil (Excludes Special Schools)
STATE	**33.0**	**7.3**	**$4,561**
Appoquinimink	15.7	7.0	$4311
Brandywine	30.6	5.0	$4851
Caesar Rodney	30.9	6.7	$3970
Cape Henlopen	31.5	5.8	$5042
Capital	36.8	6.6	$4355
Christina	39.3	9.1	$4394
Colonial	30.9	10.4	$4620
Delmar	18.7	5.7	$4491
Indian River	36.6	7.2	$4061
Lake Forest	33.3	8.7	$4129
Laurel	32.3	10.5	$3976
Milford	31.3	4.4	$3897
NCC Voc-Tech	13.3	3.1	$7336
Red Clay Cons.	36.1	9.2	$4923
Seaford	27.4	7.2	$4222
Smyrna	21.3	6.6	$3620
Woodbridge	44.5	9.6	$4228

NOTE: The data provided are for the 1988-89 school year and are the most current data available.

Table 5 compares the number of students tested with the number of students enrolled by district. Data are provided in two categories: (1) special education students only, and (2) regular and special education students shown in the table as combined. For the purposes of this comparison, enrollment data were extracted from the September 30, 1989 reports submitted by the school districts. These enrollment figures do not include students in special schools or intensive learning centers since their students are not included in the state testing program. In compiling the data for the number of students tested, a student was counted as being tested if he/she completed all or part of the Stanford 8 battery. When comparing Delaware's test scores to those of the national standardization group, it is worthwhile to note that special education students comprise a larger proportion of Delaware's testing population. While only 4.8% of the students in the national sample were classified as special education, 8.0% of Delaware students tested were categorized as special education students.

Table 5
Tested Versus Enrolled By District

District	Enrollment (9/89) Sp. Ed.	Enrollment (9/89) Combined	Students Tested (3/90) Sp. Ed.	Students Tested (3/90) Combined	Percentage Tested Sp. Ed. %	Percentage Tested Combined %
STATE	**5,913**	**67,042**	**5,117**	**64,112**	**86.5**	**95.6**
Appoquinimink	149	1,745	170	1,719	114.1 ***	98.5
Brandywine	573	7,708	487	7,465	85.0	96.8
Caesar Rodney	251	4,298	251	4,152	100.0	96.6
Cape Henlopen	311	2,533	305	2,458	98.1	97.0
Capital	397	4,401	344	4,270	86.6	97.0
Christina	946	12,256	921	11,937	97.4	97.4
Colonial	631	6,861	400	6,354 *	63.4	92.6
Delmar	26	312	36	303	138.5 ***	97.1
Indian River	428	4,329	348	4,055	81.3	93.7
Lake Forest	220	2,239	200	2,149	90.9	96.0
Laurel	156	1,394	149	1,328	95.5	95.3
Milford	323	2,447	226	2,316	70.0	94.6
NCC Voc-Tech	105	605	28	473	26.7	78.2
Red Clay Consolidated	762	10,243	678	9,771	89.0	95.4
Seaford	271	2,325	264	2,248	97.4	96.7
Smyrna	231	2,118	224	2,042	97.0	96.4
Woodbridge	133	1,228	86	1,072 **	64.7	87.3

* Due to damage in transit, 51 grade 2 answer documents from one school within the Colonial School District were not scorable.

** The Woodbridge Board of Education, at the request of district administration, passed a motion to discontinue testing of developmental first graders. Therefore, 16 such students (approximately 10% of the district's first grade population) were not tested.

*** In 2 instances the percentage of special education students tested exceeds 100%. This can be explained by the fact that the number of students classified as Special Education increased during the course of the school year due to student transfers and/or student reclassification.

Table 6 indicates the percentage of students tested who had one or more subtests invalidated by the test examiner. The 1990 Handbook for Test Coordinators and Examiners states that such test invalidations can occur if group or individual irregularities occur which could cause erroneous scores. Test examiners are provided with specific directions to follow if an irregularity such as cheating or illness occurs. Students who had one or more subtests invalidated will not receive scores for those subtests, for the total content area, or for the battery. Similarly, their scores will not be counted in the applicable average scores for the school, district, or state.

Table 6
Percentage of Students With At Least One Invalid Subtest

District	Grades 1	2	3	4	5	6	7	8	11
	%	%	%	%	%	%	%	%	%
STATE	2	1	2	1	1	2	2	2	2
Appoquinimink	1	2	0	2	2	4	2	0	0
Brandywine	2	0	3	1	0	1	1	2	0
Caesar Rodney	0	0	1	0	0	0	0	0	0
Cape Henlopen	0	0	1	0	0	0	0	0	1
Capital	5*	2	1	0	1	1	0	1	3
Christina	0	1	2	1	1	1	1	1	0
Colonial	3	3	3	3	2	6	4	3	0
Delmar	-	-	-	-	-	-	1	5	2
Indian River	3	1	3	2	1	1	3	1	0
Lake Forest	1	4	2	1	2	0	5	0	5
Laurel	2	0	2	1	1	1	1	0	5
Milford	6	2	7	1	0	1	0	1	0
NCC Vocational-Technical	-	-	-	-	-	-	-	-	11
Red Clay Consolidated	1	0	2	1	0	2	1	2	0
Seaford	0	0	1	0	0	0	2	2	0
Smyrna	1	1	0	0	0	4	2	4	2
Woodbridge	2	0	0	0	2	0	6	6	2

* Although only one subtest was attempted, all subtests were invalidated for 13 students in a developmental first-grade class in the Capital School District.

Table 7
Average NCE Scores For Delaware School Districts*
Spring 1990

Reading

District	Grades 1	2	3	4	5	6	7	8	11
STATE	**53.3**	**53.6**	**53.4**	**51.7**	**53.0**	**51.7**	**51.3**	**51.5**	**54.2**
Appoquinimink	55.1	55.1	53.9	56.4	57.4	48.6	52.0	53.0	51.2
Brandywine	55.9	56.9	57.7	53.6	57.6	54.9	54.2	52.8	59.0
Caesar Rodney	52.4	55.8	54.0	54.7	52.8	54.9	50.8	53.9	56.8
Cape Henlopen	61.1	60.0	55.1	57.9	53.8	56.5	55.0	55.9	54.0
Capital	49.3	51.5	52.9	50.7	51.0	51.6	49.8	49.7	54.8
Christina	52.7	53.5	53.0	50.0	51.7	51.7	50.6	51.4	56.2
Colonial	50.8	50.0	50.8	48.9	50.4	47.9	49.0	48.2	52.3
Delmar	-	-	-	-	-	-	45.7	49.4	48.0
Indian River	58.5	57.4	56.6	51.5	50.2	55.0	52.6	48.2	52.2
Lake Forest	56.0	53.1	52.2	50.7	55.5	50.1	50.1	51.1	53.1
Laurel	45.2	46.6	49.0	50.1	48.6	46.0	48.7	47.9	50.4
Milford	50.8	51.8	49.4	52.7	52.5	50.5	52.9	52.1	56.8
NCC Vocational-Technical	-	-	-	-	-	-	-	-	43.4
Red Clay Consolidated	53.0	52.2	51.3	51.7	55.1	51.5	53.0	53.3	59.6
Seaford	52.5	49.7	54.2	48.5	48.2	48.5	48.6	52.2	49.3
Smyrna	54.0	55.3	55.6	52.6	53.2	50.7	50.7	52.4	53.4
Woodbridge	48.6	49.1	51.0	49.3	49.8	50.0	48.1	50.0	47.2

Mathematics

District	Grades 1	2	3	4	5	6	7	8	11
STATE	**54.3**	**57.1**	**54.7**	**54.2**	**52.6**	**51.0**	**51.9**	**52.3**	**52.2**
Appoquinimink	53.1	51.8	54.1	55.4	49.7	46.9	51.9	48.6	48.1
Brandywine	61.4	64.6	59.5	56.5	59.8	58.5	56.4	56.2	55.4
Caesar Rodney	52.9	56.9	57.9	57.1	50.8	51.6	53.7	57.1	55.4
Cape Henlopen	63.2	68.8	58.5	59.9	53.8	56.1	55.2	57.0	52.9
Capital	47.4	51.2	51.3	53.1	47.5	45.2	44.9	46.2	51.8
Christina	51.9	53.9	52.8	51.2	49.4	50.1	50.5	50.2	54.2
Colonial	53.2	57.4	51.9	51.2	50.3	42.5	47.1	47.4	50.4
Delmar	-	-	-	-	-	-	45.0	47.8	46.9
Indian River	55.9	61.0	57.9	55.9	56.0	64.4	57.2	55.1	50.7
Lake Forest	59.1	57.4	51.2	53.5	57.9	50.4	49.9	54.5	48.8
Laurel	47.6	46.7	48.7	57.5	57.9	46.1	51.3	46.8	46.5
Milford	53.9	59.0	52.7	56.6	55.0	55.2	57.7	59.4	56.7
NCC Vocational-Technical	-	-	-	-	-	-	-	-	44.4
Red Clay Consolidated	54.9	56.3	54.7	54.0	52.6	50.4	54.1	52.5	57.5
Seaford	52.8	55.3	55.5	56.2	53.4	47.5	53.6	55.7	47.4
Smyrna	52.3	53.0	54.2	54.6	49.6	48.2	48.2	54.7	48.9
Woodbridge	48.7	54.0	58.8	52.6	50.4	48.8	43.2	46.0	47.3

* The national average Normal Curve Equivalent (NCE) score is 50.0.

Table 7 Continued
Language/English

District	Grades								
	1	2	3	4	5	6	7	8	11
STATE	**58.3**	**59.1**	**55.9**	**55.0**	**53.9**	**52.9**	**51.6**	**52.8**	**52.3**
Appoquinimink	64.0	61.1	58.6	59.3	54.3	51.1	50.6	51.6	52.1
Brandywine	61.1	64.6	59.2	56.6	57.3	56.3	54.0	52.9	56.2
Caesar Rodney	57.9	59.5	56.8	59.1	52.4	58.3	53.1	53.4	53.1
Cape Henlopen	64.1	61.6	58.5	59.2	54.7	57.4	53.6	61.1	51.9
Capital	53.9	57.9	56.8	56.0	51.1	51.9	49.6	50.6	50.5
Christina	56.5	57.9	54.0	52.9	53.1	53.8	51.4	52.3	52.1
Colonial	57.7	56.3	54.9	51.4	52.0	47.7	50.1	49.4	50.9
Delmar	-	-	-	-	-	-	49.1	49.4	48.5
Indian River	63.0	61.8	60.4	55.1	54.2	59.6	55.0	56.2	53.5
Lake Forest	60.5	56.8	54.6	51.2	56.1	51.3	48.0	53.5	54.7
Laurel	50.4	53.0	49.8	54.2	48.7	45.5	45.9	48.1	52.0
Milford	56.9	58.1	51.3	56.3	56.1	53.1	54.5	55.1	52.6
NCC Vocational-Technical	-	-	-	-	-	-	-	-	42.9
Red Clay Consolidated	58.5	58.4	53.8	55.5	55.0	51.0	52.8	53.9	59.5
Seaford	55.7	56.4	56.0	55.6	53.2	50.2	48.4	52.8	46.2
Smyrna	57.7	59.5	59.2	56.5	53.2	48.8	47.6	51.5	46.3
Woodbridge	54.3	57.0	59.5	51.4	50.9	48.7	45.5	48.4	45.3

Basic Battery

District	Grades								
	1	2	3	4	5	6	7	8	11
STATE	**54.9**	**56.4**	**55.4**	**53.6**	**53.5**	**51.9**	**51.8**	**52.2**	**53.8**
Appoquinimink	56.6	55.6	55.6	56.7	54.5	48.5	51.5	50.4	51.3
Brandywine	59.9	62.0	60.2	56.1	59.0	57.6	55.9	54.8	59.2
Caesar Rodney	53.4	57.1	56.2	57.2	52.5	54.2	51.4	54.4	56.1
Cape Henlopen	62.9	63.4	57.4	58.9	54.5	56.5	54.7	57.3	54.5
Capital	49.9	53.2	54.2	52.7	50.1	49.2	47.4	48.7	52.8
Christina	53.1	55.2	53.9	51.3	51.2	51.0	50.8	50.9	55.4
Colonial	53.3	54.0	53.3	50.2	51.6	45.8	48.4	47.8	51.5
Delmar	-	-	-	-	-	-	45.5	48.5	47.3
Indian River	59.4	60.5	59.3	54.3	53.7	59.2	55.4	53.3	52.8
Lake Forest	57.5	56.2	53.0	51.3	56.9	49.8	49.5	52.9	52.7
Laurel	45.9	48.2	49.8	54.1	51.6	46.5	48.8	48.4	50.4
Milford	53.4	56.2	52.4	54.8	54.0	52.5	54.8	54.6	54.8
NCC Vocational-Technical	-	-	-	-	-	-	-	-	42.6
Red Clay Consolidated	54.8	55.2	54.0	53.8	55.0	52.0	53.9	53.7	59.9
Seaford	53.6	52.6	56.4	53.1	51.7	49.0	51.6	54.5	48.1
Smyrna	54.0	56.3	56.9	54.8	52.3	50.0	49.2	53.7	50.0
Woodbridge	49.9	51.9	56.0	50.8	50.6	49.4	46.2	47.8	47.4

Table 7 Continued
Listening

District	Grades								
	1	2	3	4	5	6	7	8	11
STATE	**52.0**	**53.6**	**52.9**	**50.3**	**51.0**	**50.6**	**49.2**	**52.4**	-
Appoquinimink	55.8	52.9	54.0	55.1	55.5	51.3	50.0	56.2	-
Brandywine	55.2	56.6	56.5	52.5	54.5	54.2	51.4	51.6	-
Caesar Rodney	49.5	52.6	53.9	54.0	51.5	53.2	48.3	52.0	-
Cape Henlopen	56.6	57.1	54.7	54.3	50.3	54.3	52.3	55.6	-
Capital	50.0	51.4	51.0	49.1	46.2	48.4	48.6	50.6	-
Christina	49.9	53.0	52.0	48.7	48.9	49.0	48.6	53.2	-
Colonial	52.0	52.7	50.3	47.9	50.3	47.8	47.2	50.3	-
Delmar	-	-	-	-	-	-	48.1	51.1	-
Indian River	56.1	56.1	55.9	49.3	50.8	52.3	51.0	50.2	-
Lake Forest	51.3	52.6	53.0	49.5	53.6	50.6	45.7	52.7	-
Laurel	46.0	50.8	47.7	48.8	46.3	47.0	45.9	50.5	-
Milford	50.9	52.2	50.7	51.1	49.6	48.3	48.8	49.7	-
NCC Vocational-Technical	-	-	-	-	-	-	-	-	-
Red Clay Consolidated	52.6	54.1	51.5	50.0	53.8	50.8	49.8	54.3	-
Seaford	52.9	49.6	55.3	50.4	48.6	49.5	51.1	55.5	-
Smyrna	51.0	56.0	57.5	52.3	50.7	51.8	50.4	53.3	-
Woodbridge	45.7	47.6	48.3	45.8	46.4	50.7	46.0	50.9	-

Thinking Skills

District	Grades								
	1	2	3	4	5	6	7	8	11
STATE	-	-	**54.7**	**52.5**	**53.1**	**51.9**	**50.9**	**52.4**	**53.3**
Appoquinimink	-	-	54.5	55.6	54.2	49.0	50.0	51.6	51.2
Brandywine	-	-	60.1	56.0	58.8	57.5	53.8	54.2	58.3
Caesar Rodney	-	-	57.3	55.9	52.5	54.1	50.9	54.5	58.4
Cape Henlopen	-	-	56.1	57.3	52.8	54.9	53.9	55.9	52.8
Capital	-	-	53.4	51.5	49.8	51.3	47.8	49.2	53.8
Christina	-	-	53.2	50.2	51.6	51.3	49.9	51.9	56.0
Colonial	-	-	52.6	49.0	50.7	46.1	47.6	49.2	51.2
Delmar	-	-	-	-	-	-	45.6	49.4	48.3
Indian River	-	-	57.8	52.9	53.3	56.8	53.2	51.8	50.8
Lake Forest	-	-	51.2	49.8	55.9	49.8	50.0	55.0	52.0
Laurel	-	-	48.0	53.4	51.8	47.2	48.7	49.5	47.8
Milford	-	-	49.9	52.2	52.0	51.5	53.3	53.5	53.9
NCC Vocational-Technical	-	-	-	-	-	-	-	-	40.6
Red Clay Consolidated	-	-	54.4	53.4	54.7	52.1	53.3	53.6	57.6
Seaford	-	-	56.5	51.2	50.9	48.6	50.1	54.0	49.1
Smyrna	-	-	54.7	52.3	53.1	51.0	50.5	53.5	52.2
Woodbridge	-	-	52.9	48.6	49.4	50.2	45.1	48.9	46.7

Table 7 Continued
Science, Social Science and Complete Battery
Grade 11 Only

District	Science	Social Science	Complete Battery
STATE	**52.7**	**53.2**	**53.8**
Appoquinimink	50.4	53.1	51.7
Brandywine	55.4	57.2	59.0
Caesar Rodney	60.1	58.3	57.2
Cape Henlopen	52.9	51.6	54.0
Capital	56.1	55.7	53.5
Christina	55.3	54.7	55.5
Colonial	52.1	51.6	51.4
Delmar	49.3	51.9	47.9
Indian River	50.7	51.2	52.6
Lake Forest	51.7	49.6	52.5
Laurel	48.0	51.7	50.2
Milford	52.8	51.8	54.1
NCC Vocational-Technical	40.7	43.7	41.9
Red Clay Consolidated	55.4	56.4	59.2
Seaford	49.2	50.9	48.5
Smyrna	52.1	54.4	50.7
Woodbridge	48.2	46.5	47.2

1990 STATE ASSESSMENT RESULTS REPORTED BY SUBGROUP

Overview Of Subgroups

By using an interactive database management system maintained by the Delaware Educational Assessment Program, it is possible to disaggregate the state level test data to provide a better picture of how various subgroups of students performed on the statewide tests. By analyzing such disaggregated data, variations in performance of various subgroups can be identified and hopefully addressed, thereby assisting all Delaware public school students in reaching a satisfactory level of achievement in the basic skills areas.

In this section of the report, scores from the Spring 1990 administration of the Stanford 8 are reported for a variety of subgroups. Scores are reported by sex, racial/ethnic category, special education/ handicapping condition, and Chapter I status for students in grades 1-8 and 11. Scores are also reported for students identified as migrants and for students classified as limited English proficient (LEP). To facilitate this categorization of students, student identification information was extracted from a computer file maintained by the Delaware Educational Assessment Program and current as of February 1990. In addition, scores for grade 11 students are given based on student self-reporting of their high school programs and their post high school plans. The categories employed for reporting purposes are as follows:

Sex. Average test scores are reported for males and females.

Special Education/ Handicapping Condition. The overwhelming majority of special education students tested in Delaware are classified as either educable mentally handicapped (EMH), socially-emotionally maladjusted (SEM), or learning disabled (LD). The number of students tested with other handicapping conditions (trainable mentally handicapped, physically-orthopedically handicapped, hearing impaired, blind, and partially sighted) does not exceed eleven for any one grade for any of the content areas. Therefore, to protect the privacy of individual students, mean scores are reported only for special education students classified as EMH, SEM, or LD.

Racial/Ethnic Classification. Average test scores are reported for each of five different racial/ ethnic categories: White, Black, Hispanic, Asian/ Pacific Islander, and American Indian/Alaskan native.

Chapter I Status. Average test scores are reported for students classified as Chapter I. Chapter I students are educationally disadvantaged students receiving supplementary instruction in reading and/ or math, financed by federal funds. In a data collection conducted in February 1990, school staff were asked to identify those students receiving Chapter I services in Reading and/or

Mathematics. Based on the data they supplied, scores are reported for Chapter I students as an aggregate.

Limited English Proficiency. Average test scores are reported for students identified as Limited English Proficient (LEP). LEP students are those from a non-English background resulting in an English Language Deficiency which would interfere with learning successfully in a classroom where the language of instruction is English.

Migrants. Average test scores are reported for students identified as migrants. These students were classified as migrants in accordance with Chapter I migrant education regulations.

Program/Post High School Plans. Students in grade 11 were asked to classify their current high school program as either college preparatory, vocational, or general. Ninety-five percent (95%) of all grade 11 students tested provided the requested information.

Grade 11 students were also asked to respond to a second question concerning their post high school plans. Students were asked to select one of six choices: a four-year college program, a two-year college program, employment, military, other, or undecided. Ninety-four percent (94%) of the grade 11 students tested provided a response. Average test scores are provided by high school program and by post high school plans for reading, language arts, and mathematics.

Table 8 provides a breakdown, arranged by grade by variable category, of the number of students tested on the Basic Battery and the accompanying mean NCE scores. Table 9 provides the same types of data for the content areas of reading, language, and mathematics, with each table displaying the data for a particular grade. Table 10 provides data for grade 11 students disaggregated by high school program and post high school plans for the content areas of reading, language, and mathematics. A brief summary of the findings generated by this analysis of test data follows Table 10.

Table 8
State Results By Subgroup
Basic Battery

Category	Grade 1 N Count	Grade 1 Mean NCE	Grade 2 N Count	Grade 2 Mean NCE	Grade 3 N Count	Grade 3 Mean NCE	Grade 4 N Count	Grade 4 Mean NCE	Grade 5 N Count	Grade 5 Mean NCE
State										
Regular	**7549**	**55.9**	**6919**	**58.0**	**6649**	**57.4**	**6565**	**55.8**	**6401**	**56.2**
Combined	**7921**	**54.9**	**7372**	**56.4**	**7138**	**55.4**	**7106**	**53.6**	**6992**	**53.5**
Sex										
Male	4083	54.3	3794	55.9	3559	54.5	3615	52.5	3536	51.6
Female	3838	55.5	3578	57.0	3579	56.2	3491	54.7	3456	55.5
Racial/Ethnic										
White	5385	59.1	5087	60.7	4947	59.6	4927	58.0	4772	57.9
Black	2202	44.7	1894	45.6	1815	44.5	1847	42.3	1885	42.6
Hispanic	162	49.4	205	43.5	178	43.9	155	41.7	182	44.0
Asian	116	64.7	123	68.1	111	66.1	98	64.8	88	71.3
Indian	11	43.1	8	66.7	10	54.7	10	49.0	13	51.5
Unknown	45	43.4	55	52.5	77	53.9	69	50.2	52	46.3
Special Education										
EMH	102	33.6	113	30.4	94	25.5	83	30.5	78	21.4
SEM	17	31.2	23	36.1	41	33.9	42	31.1	65	26.8
LD	249	33.2	308	30.8	345	28.2	409	25.8	441	23.6
Compensatory Programs										
Chapter I Students	1542	40.9	1293	42.0	920	39.7	748	37.3	713	36.4
Migrant Students	6	50.2	31	41.7	48	42.6	42	40.9	49	40.4
LEP Students	92	45.4	98	44.9	107	43.8	76	44.9	60	43.6

Category	Grade 6 N Count	Grade 6 Mean NCE	Grade 7 N Count	Grade 7 Mean NCE	Grade 8 N Count	Grade 8 Mean NCE	Grade 11 N Count	Grade 11 Mean NCE
State								
Regular	**5785**	**54.3**	**5908**	**54.3**	**5418**	**54.8**	**4250**	**55.3**
Combined	**6277**	**51.9**	**6424**	**51.8**	**5886**	**52.2**	**4460**	**53.8**
Sex								
Male	3193	50.1	3215	49.5	2985	49.9	2148	52.8
Female	3084	53.8	3209	54.0	2901	54.5	2312	54.8
Racial/Ethnic								
White	4336	56.3	4544	55.6	4152	56.4	3306	57.1
Black	1610	41.0	1572	40.9	1463	40.6	917	41.7
Hispanic	151	38.7	151	39.1	120	41.6	90	45.7
Asian	90	70.6	90	70.0	105	67.9	104	67.4
Indian	10	55.9	9	55.9	2	*	5	59.2
Unknown	80	38.7	58	48.8	44	37.3	38	49.0
Special Education								
EMH	76	22.3	72	19.6	56	23.1	35	23.3
SEM	59	26.9	61	26.7	60	25.6	34	23.0
LD	353	23.5	377	22.1	344	20.5	136	23.1
Compensatory Programs								
Chapter I Students	357	35.8	134	33.2	98	29.8	21	33.9
Migrant Students	32	36.7	38	36.7	29	33.6	10	33.7
LEP Students	90	34.7	70	43.1	59	33.7	60	40.7

* Mean NCE not reported if number of students tested is less than 5 for reasons of student privacy.

Regular students are defined as all students with the exception of special education students. Combined students are defined as all regular students plus all students classified as special education students.

Table 9
State Results By Subgroup

Grade 1

	Reading			Language			Math		
	Number	%	Mean NCE	Number	%	Mean NCE	Number	%	Mean NCE
State									
Regular	**7760**	**95.3**	**54.2**	**7869**	**95.0**	**59.3**	**7872**	**95.0**	**55.5**
Combined	**8147**	**100.0**	**53.3**	**8280**	**100.0**	**58.3**	**8291**	**100.0**	**54.3**
Sex									
Male	4199	51.5	52.2	4274	51.6	57.0	4291	51.8	55.1
Female	3948	48.5	54.5	4006	48.4	59.5	4000	48.3	53.5
Racial/Ethnic									
White	5507	67.6	56.6	5572	67.3	62.2	5577	67.3	58.8
Black	2297	28.2	45.4	2357	28.5	49.2	2334	28.2	44.1
Hispanic	168	2.1	49.6	177	2.1	53.4	205	2.5	47.3
Asian	118	1.5	63.5	116	1.4	65.6	117	1.4	65.8
Indian	11	0.1	41.6	11	0.1	50.0	11	0.1	46.2
Unknown	46	0.6	45.0	47	0.6	48.2	47	0.6	42.7
Special Education									
EMH	107	1.3	35.3	111	1.3	38.7	116	1.4	34.2
SEM	18	0.2	33.8	21	0.3	36.4	19	0.2	30.8
LD	258	3.2	35.7	275	3.3	38.1	280	3.4	32.6
Compensatory Programs									
Chapter I Students	1612	19.8	41.3	1687	20.4	46.4	1692	20.4	41.5
Migrant	7	0.1	46.8	7	0.1	49.1	7	0.1	51.9
LEP	96	1.2	46.8	100	1.2	49.8	130	1.6	42.4

Grade 2

	Reading			Language			Math		
	Number	%	Mean NCE	Number	%	Mean NCE	Number	%	Mean NCE
State									
Regular	**7065**	**93.6**	**55.1**	**7185**	**93.4**	**60.6**	**7139**	**93.3**	**58.7**
Combined	**7545**	**100.0**	**53.6**	**7692**	**100.0**	**59.1**	**7654**	**100.0**	**57.1**
Sex									
Male	3899	51.7	52.6	3978	51.7	57.8	3965	51.8	57.7
Female	3646	48.3	54.7	3714	48.3	60.4	3689	48.2	56.4
Racial/Ethnic									
White	5176	68.6	57.3	5261	68.4	63.4	5239	68.5	61.4
Black	1975	26.2	44.2	2027	26.4	48.8	2013	26.3	46.1
Hispanic	207	2.7	42.8	217	2.8	46.5	215	2.8	46.6
Asian	124	1.6	64.4	124	1.6	66.8	124	1.6	69.3
Indian	8	0.1	61.5	8	0.1	66.8	8	0.1	66.5
Unknown	55	0.7	52.1	55	0.7	55.8	55	0.7	51.4
Special Education									
EMH	118	1.6	30.7	128	1.7	36.6	132	1.7	33.2
SEM	25	0.3	36.0	28	0.4	41.5	27	0.4	34.3
LD	326	4.3	31.0	340	4.4	36.3	346	4.5	33.6
Compensatory Programs									
Chapter I Students	1342	17.8	39.9	1381	18.0	46.2	1374	18.0	45.3
Migrant	31	0.4	40.4	34	0.4	43.7	33	0.4	45.5
LEP	101	1.3	43.0	106	1.4	47.3	106	1.4	48.3

Table 9 Continued
Grade 3

	Reading			Language			Math		
	Number	%	Mean NCE	Number	%	Mean NCE	Number	%	Mean NCE
State									
Regular	**6918**	**92.7**	**55.3**	**7044**	**92.3**	**58.1**	**7092**	**92.1**	**56.7**
Combined	**7464**	**100.0**	**53.4**	**7628**	**100.0**	**55.9**	**7700**	**100.0**	**54.7**
Sex									
Male	3746	50.2	52.3	3832	50.2	53.4	3876	50.3	55.1
Female	3718	49.8	54.5	3796	49.8	58.4	3824	49.7	54.3
Racial/Ethnic									
White	5126	68.7	57.6	5238	68.7	60.1	5288	68.7	58.8
Black	1946	26.1	43.0	1999	26.2	45.2	2016	26.2	44.1
Hispanic	187	2.5	42.1	187	2.5	46.5	190	2.5	45.9
Asian	115	1.5	61.8	113	1.5	66.5	115	1.5	67.5
Indian	10	0.1	52.8	10	0.1	60.6	10	0.1	50.6
Unknown	80	1.1	51.9	81	1.1	53.9	81	1.1	54.1
Special Education									
EMH	106	1.4	25.9	107	1.4	24.6	108	1.4	28.4
SEM	43	0.6	35.3	49	0.6	33.1	51	0.7	33.5
LD	385	5.2	28.7	415	5.4	28.7	437	5.7	30.7
Compensatory Programs									
Chapter I Students	984	13.2	38.3	1011	13.3	41.4	1018	13.2	41.1
Migrant	53	.7	41.5	55	.7	45.6	52	.7	43.9
LEP	112	1.5	42.9	111	1.5	46.1	114	1.5	46.7

Grade 4

	Reading			Language			Math		
	Number	%	Mean NCE	Number	%	Mean NCE	Number	%	Mean NCE
State									
Regular	**6748**	**91.7**	**53.8**	**6719**	**92.0**	**57.3**	**6720**	**91.6**	**56.6**
Combined	**7356**	**100.0**	**51.7**	**7307**	**100.0**	**55.0**	**7340**	**100.0**	**54.2**
Sex									
Male	3749	51.0	50.7	3723	51.0	52.9	3752	51.1	53.6
Female	3607	49.0	52.6	3584	49.1	57.3	3588	48.9	54.8
Racial/Ethnic									
White	5057	68.8	56.3	5036	68.9	59.5	5058	68.9	58.3
Black	1947	26.5	40.4	1922	26.3	44.0	1930	26.3	43.8
Hispanic	171	2.3	39.2	168	2.3	44.2	172	2.3	44.0
Asian	99	1.4	58.1	98	1.3	65.8	99	1.4	67.8
Indian	11	0.2	48.0	11	0.2	54.2	11	0.2	47.3
Unknown	71	1.0	48.3	72	1.0	51.4	70	1.0	51.3
Special Education									
EMH	99	1.4	28.9	92	1.3	32.0	101	1.4	31.8
SEM	45	0.6	35.5	44	0.6	36.3	46	0.6	29.8
LD	456	6.2	26.1	444	6.1	27.7	465	6.3	27.6
Compensatory Programs									
Chapter I Students	801	10.9	36.4	800	11.0	39.0	795	10.8	38.9
Migrant	42	0.6	38.7	42	0.6	40.5	43	0.6	45.4
LEP	81	1.1	41.1	81	1.1	45.2	81	1.1	47.5

Table 9 Continued
Grade 5

	Reading			Language			Math		
	Number	%	Mean NCE	Number	%	Mean NCE	Number	%	Mean NCE
State									
Regular	**6546**	**91.0**	**55.6**	**6503**	**91.0**	**56.5**	**6546**	**91.0**	**55.3**
Combined	**7190**	**100.0**	**53.0**	**7149**	**100.0**	**53.9**	**7193**	**100.0**	**52.6**
Sex									
Male	3644	50.7	51.6	3629	50.8	51.1	3648	50.7	51.2
Female	3546	49.3	54.3	3520	49.2	56.8	3545	49.3	54.0
Racial/Ethnic									
White	4881	67.9	57.7	4852	67.9	57.9	4881	67.9	56.8
Black	1961	27.3	42.0	1951	27.3	44.1	1955	27.2	42.5
Hispanic	191	2.7	41.8	189	2.6	46.1	200	2.8	42.9
Asian	89	1.2	63.8	89	1.2	66.7	89	1.2	73.8
Indian	13	0.2	46.7	13	0.2	53.8	13	0.2	53.5
Unknown	55	0.7	47.9	55	0.8	47.2	55	0.8	45.0
Special Education									
EMH	88	1.2	24.2	86	1.2	25.3	88	1.2	22.0
SEM	73	1.0	28.4	72	1.0	28.9	69	1.0	27.2
LD	475	6.6	26.1	479	6.7	27.2	481	6.7	25.5
Compensatory Programs									
Chapter I Students	730	10.2	36.3	727	10.2	39.3	730	10.2	38.2
Migrant	54	.8	38.1	55	0.8	41.6	56	0.8	43.1
LEP	64	0.9	43.8	64	0.9	44.9	75	1.0	40.1

Grade 6

	Reading			Language			Math		
	Number	%	Mean NCE	Number	%	Mean NCE	Number	%	Mean NCE
State									
Regular	**6080**	**91.5**	**54.0**	**6040**	**91.3**	**55.3**	**6026**	**91.4**	**53.4**
Combined	**6647**	**100.0**	**51.7**	**6617**	**100.0**	**52.9**	**6590**	**100.0**	**51.0**
Sex									
Male	3419	51.4	50.4	3409	51.5	49.6	3395	51.5	49.8
Female	3228	48.6	53.1	3208	48.5	56.4	3195	48.5	52.4
Racial/Ethnic									
White	4529	68.1	56.2	4500	68.0	57.1	4507	68.4	55.5
Black	1764	26.5	41.2	1757	26.6	42.8	1726	26.2	40.3
Hispanic	166	2.5	39.8	168	2.5	41.4	169	2.6	37.7
Asian	92	1.4	64.4	93	1.4	68.8	93	1.4	73.3
Indian	10	0.2	57.1	10	0.2	59.0	10	0.2	50.4
Unknown	86	1.3	39.4	89	1.4	40.8	85	1.3	37.1
Special Education									
EMH	83	1.3	26.2	90	1.4	27.4	87	1.3	23.5
SEM	69	1.0	30.8	70	1.1	32.2	64	1.0	27.7
LD	411	6.2	26.6	413	6.3	25.9	409	6.2	25.4
Compensatory Programs									
Chapter I Students	378	5.7	35.8	375	5.7	39.5	374	5.7	38.0
Migrant	32	0.5	37.2	32	0.5	38.8	32	0.5	39.7
LEP	99	1.5	34.9	102	1.5	37.3	101	1.5	35.3

Table 9 Continued
Grade 7

	Reading			Language			Math		
	Number	%	Mean NCE	Number	%	Mean NCE	Number	%	Mean NCE
State									
Regular	**6203**	**91.4**	**53.9**	**6180**	**91.3**	**54.1**	**6134**	**91.7**	**54.4**
Combined	**6784**	**100.0**	**51.3**	**6767**	**100.0**	**51.6**	**6691**	**100.0**	**51.9**
Sex									
Male	3439	50.7	49.2	3424	50.6	47.8	3375	50.4	50.5
Female	3345	49.3	53.5	3343	49.4	55.5	3316	49.6	53.3
Racial/Ethnic									
White	4738	69.8	55.5	4723	69.8	55.3	4689	70.1	55.7
Black	1718	25.3	40.6	1717	25.4	41.5	1679	25.1	41.2
Hispanic	163	2.4	37.8	164	2.4	41.4	159	2.4	41.4
Asian	92	1.4	62.9	91	1.3	65.6	91	1.4	74.7
Indian	9	0.1	50.7	10	0.2	55.2	9	0.1	58.1
Unknown	64	0.9	48.2	62	0.9	49.9	64	1.0	47.9
Special Education									
EMH	83	1.2	23.8	84	1.2	23.4	80	1.2	21.2
SEM	72	1.1	28.0	68	1.0	30.2	67	1.0	24.4
LD	420	6.2	24.1	428	6.3	24.8	404	6.0	24.5
Compensatory Programs									
Chapter I Students	137	2.0	32.5	140	2.1	36.1	139	2.1	36.7
Migrant	42	0.6	38.2	42	0.6	37.8	42	0.6	38.3
LEP	73	1.1	43.2	76	1.1	43.4	76	1.1	44.4

Grade 8

	Reading			Language			Math		
	Number	%	Mean NCE	Number	%	Mean NCE	Number	%	Mean NCE
State									
Regular	**5741**	**91.3**	**54.1**	**5696**	**91.4**	**55.4**	**5670**	**91.8**	**54.8**
Combined	**6285**	**100.0**	**51.5**	**6231**	**100.0**	**52.8**	**6179**	**100.0**	**52.3**
Sex									
Male	3210	51.1	50.3	3188	51.2	48.9	3152	51.0	51.1
Female	3075	48.9	52.8	3043	48.8	56.9	3027	49.0	53.5
Racial/Ethnic									
White	4396	69.9	55.8	4354	69.9	56.8	4321	69.9	56.4
Black	1601	25.5	40.1	1585	25.4	42.2	1571	25.4	40.9
Hispanic	130	2.1	41.0	132	2.1	43.8	132	2.1	42.2
Asian	106	1.7	63.4	106	1.7	66.2	105	1.7	72.5
Indian	2	0.03	*	2	0.03	*	2	0.03	*
Unknown	50	0.8	36.6	52	0.8	37.9	48	0.8	38.5
Special Education									
EMH	68	1.1	23.9	64	1.0	25.9	63	1.0	27.3
SEM	73	1.2	28.4	77	1.2	27.3	67	1.1	24.8
LD	395	6.3	23.9	386	6.2	24.0	371	6.0	23.5
Compensatory Programs									
Chapter I Students	108	1.7	31.2	106	1.7	31.7	101	1.6	31.4
Migrant	31	0.5	34.4	33	0.5	38.0	32	0.5	36.4
LEP	61	1.0	31.7	63	1.0	37.8	64	1.0	37.4

Table 9 Continued
Grade 11

	Reading			Language			Math		
	Number	%	Mean NCE	Number	%	Mean NCE	Number	%	Mean NCE
State									
Regular	**4510**	**95.0**	**55.7**	**4524**	**95.00**	**53.7**	**4514**	**94.9**	**53.6**
Combined	**4748**	**100.0**	**54.2**	**4762**	**100.0**	**52.3**	**4756**	**100.0**	**52.2**
Sex									
Male	2295	48.3	53.6	2309	48.5	49.6	2300	48.4	53.9
Female	2453	51.7	54.8	2452	51.5	54.7	2455	51.6	50.7
Racial/Ethnic									
White	3516	74.1	57.5	3522	74.0	55.3	3510	73.8	55.2
Black	976	20.6	42.3	985	20.7	41.2	990	20.8	41.0
Hispanic	96	2.0	45.2	98	2.1	46.5	99	2.1	45.6
Asian	109	2.3	65.4	108	2.3	62.1	106	2.2	70.6
Indian	5	0.1	55.3	5	0.1	66.6	5	0.1	54.4
Unknown	46	1.0	50.0	44	1.0	46.9	46	1.0	41.7
Special Education									
EMH	38	0.8	25.3	40	0.8	26.5	42	0.9	26.4
SEM	40	0.8	27.8	39	0.8	23.9	39	0.8	26.4
LD	155	3.3	26.8	153	3.2	24.2	156	3.3	27.3
Compensatory Programs									
Chapter I Students	21	0.4	37.1	21	0.4	36.7	21	0.4	34.3
Migrant	10	0.2	34.3	10	0.2	33.8	10	0.2	39.9
LEP	71	1.5	41.9	69	1.5	40.2	71	1.5	42.3

Table 10
High School Program and Post High School Plans
Grade 11

	Reading			Language			Math		
	Number	%	Mean NCE	Number	%	Mean NCE	Number	%	Mean NCE
State									
Regular	**4510**	**95.0**	**55.7**	**4524**	**95.0**	**53.7**	**4514**	**94.9**	**53.6**
Combined	**4748**	**100.0**	**54.2**	**4762**	**100.0**	**52.3**	**4756**	**100.0**	**52.2**
High School Program									
College Preparatory	2910	61.3	62.5	2903	61.0	60.3	2898	60.9	59.8
Vocational	938	19.8	40.8	949	19.9	39.8	961	20.2	40.4
General	805	17.0	41.0	813	17.1	38.9	796	16.7	40.0
Not Known	95	2.0	46.1	97	2.0	44.1	101	2.1	45.3
Post High School Plans									
Four-Year College Degree	2503	52.7	62.8	2492	52.3	60.7	2489	52.3	60.4
Two-Year College Degree	471	9.9	44.2	469	9.9	43.1	468	9.8	43.7
Employment	406	8.6	40.4	408	8.6	38.8	409	8.6	39.8
Military	279	5.9	44.1	282	5.9	40.9	279	5.9	43.5
Other	151	3.2	43.5	151	3.2	41.4	149	3.1	40.6
Undecided	831	17.5	47.1	851	17.9	45.8	849	17.9	44.9
Not Known	107	2.3	45.9	109	2.3	43.4	113	2.4	43.9

General Summary Of Findings

Sex: Average Basic Battery scores were higher for females than for males at all grade levels tested. Differences ranged from a low of 1.1 NCEs at grade 2 to a high of 4.6 NCEs at grade 8. The greatest differences between the average Basic Battery scores of males and females occurred at grades 5-8. Females performed above the national norm of 50.0 at all grade levels tested while males performed above the national norm at all grades except 7 and 8.

Average scores of female students exceeded those of male students in reading and language at all grade levels tested. While the average mathematics scores of females exceeded those of males at most grade levels, males scored higher than females in grades 1, 2, 3, and 11.

With the exception of grade 11, females received their highest average score in language. Average reading scores for females exceeded average mathematics scores at all grades except 2, 4 and 8. Relative to the other content areas, mathematics was a strength for male students at grades 3, 4, 7, 8, and 11 where average scores exceeded those in reading and language. Language was a relative strength for males in grades 1 and 2 while reading was a relative strength at grades 5 and 6. At grades 1-4 reading was a relative weakness, being exceeded by average scores in both language and mathematics. Language was a relative weakness for males in grades 5-8 and 11.

When comparing 1990 data with corresponding data presented in The Appendix to the 1989 Statewide Test Results Summary Report, achievement score increases on the Basic Battery are noted at all grade levels for both males and females. Score increases for males and females are within 1 NCE of one another across grades. Changes in the patterns of content area strengths and weaknesses between 1989 and 1990 are slight.

Race: The White and Asian/Pacific Islander groups performed above the national norm on the Basic Battery at all grades tested. Although the number of students classified as American Indian/Alaskan Native was small, this group scored above the national norm at all grades except 1 and 4. The Black and Hispanic groups scored below the national norm at all grades tested.

Average Basic Battery scores for the Asian/Pacific Islander group exceeded the average scores for all other racial/ethnic groups at all grades tested. The White group scored higher than the Black, Hispanic, and Indian groups at all grades tested except 2, 7, and 11. Although the number of students classified as Indian is small, average scores for this group exceeded average scores of the Black and Hispanic groups at 7 of the 9 grades tested. The Hispanic group scored higher than the Black group in grades 1, 5, 8, and 11 with the largest difference noted at grades 1 and 11. The Black group scored higher than the Hispanic group in grades 2, 3, 4, 6, and 7 with the least differences noted in grades 3 and 4 (.6 NCE) and the greatest difference noted in grade 6 (2.3 NCEs).

The Asian/Pacific Islander and White groups performed above the national norm in all content areas across all grade levels tested. The average scores

of the Asian/Pacific Islander group exceeded those of all other racial/ ethnic groups for all content areas at all grades tested. The White group generally scored higher than the Black, Hispanic, and Indian groups except at grade 2 (all content areas), grade 3 (language), grade 6 (reading and language), grade 7 (mathematics), and grade 11 (language) where the average scores for the Indian group were higher.

Average scores for the Black and Hispanic groups were below the national norm in all content areas across all grades tested, with the exception of the first grade language score for Hispanics. The Black group generally scored higher than the Hispanic group in Reading with the exception of grades 1, 8, and 11. The Hispanic group generally scored higher than the Black group in mathematics, with the exception of grade 6. At 6 of the 9 grades tested, Hispanics received higher average scores in Language than Blacks.

Across all grades tested, the Asian/Pacific Islander group received their highest average score in mathematics. Average language scores exceeded average reading scores at all grades except 11. In contrast, relative to the other content areas, language was a relative strength for the White group, exceeding both reading and mathematics scores at 7 of the 9 grades tested. Generally, the White group received their lowest scores in reading at the early grades; grades 5, 6, and 11 received their lowest average scores in mathematics.

At all grades except 11, the Black group received their highest average score in language. Math scores for the Black group exceeded reading scores at 6 of the 9 grades tested. Relative to the other content areas, the Hispanic group tended to score somewhat higher in language. Average language scores exceeded scores in both reading and mathematics at 8 of the 9 grades tested. Reading was the relative weakness of the Hispanic group with 7 of the 9 grades tested receiving their lowest score in this area.

When comparing 1990 data with corresponding data presented in The Appendix to the 1989 Statewide Test Results Summary Report, achievement score increases on the Basic Battery are noted at all grade levels for the White, Black, and Hispanic groups and at most grade levels for the Asian and Indian groups. A few changes are also noted in the patterns of strengths and weaknesses by content area and grade between 1989 and 1990. For example, in 1989, Hispanics tended to receive higher average test scores than Blacks at the early grades while Blacks received higher average scores at later grades. In 1990, the same generalization cannot be made. Differences in 1990 tended to be more closely related to content area than grade, with Blacks generally receiving higher average scores in Reading and Hispanics receiving higher average scores in Language and Mathematics. In addition, while Blacks continued to receive their highest average score in language, in 1990 math was a relative strength for them as opposed to reading in 1989. Reading continues to be a relative weakness of Hispanic students; average language scores have improved, however, relative to average mathematics scores.

Special Education/ Handicapping Category: None of the three major categories of special education students scored above the national average of 50.0. The average Basic Battery scores for SEM students exceeded the scores of both EMH and LD students except at grade 1. Scores for the EMH group exceeded those of the LD group at grades 1, 4, 8, and 11 while scores for the LD group were higher at grades 2, 3, 5, 6, and 7. Generally, Basic Battery scores for all categories tended to be highest in the early grades.

Across grades and content areas, the average scores of the SEM group generally exceeded those of the LD and EMH groups. The only exceptions were at grade 1 (all content areas), grade 11 (language), and grades 4, 7, 8, and 11 (mathematics). Average scores for all three special education groups were below the national norm in all content areas at all grades tested.

Each of the three special education groups tended to receive its highest average score in language. Exceptions to this occurred at grade 8 for the EMH group and grade 11 for the LD group; each received their highest score in mathematics. Average reading scores were highest for the SEM group at grades 3, 8, and 11, the LD group at grade 6, and the EMH group at grade 7.

When comparing 1990 data with corresponding data presented in The Appendix to the 1989 Statewide Test Results Summary Report, achievement score increases on the Basic Battery are generally noted at all grade levels for the three Special Education categories. Changes in the patterns of content area strengths and weaknesses between 1989 and 1990 are slight.

Chapter I Status: Average Basic Battery scores for Chapter I students were below the national norm at all grades tested. They were also consistently below the average scores received by both regular and combined students statewide. The average scores for Chapter I students were highest at grades 1-3.

The average scores of Chapter I students were below the national norm at all grades tested in all content areas. Similarly, Chapter I students as a group consistently scored below both regular and combined students statewide. At 7 of the 9 grades tested, Chapter I students received their highest average score in language. At grade 7, their highest average score was in mathematics. At grade 11, their highest average score was in reading. Reading was a weakness relative to the other content areas for Chapter I students, with 8 of the 9 grades tested receiving their lowest score in reading.

When comparing 1990 data with corresponding data presented in The Appendix to the 1989 Statewide Test Results Summary Report, achievement score increases are noted at all grade levels for Chapter I students. Changes in the patterns of content area strengths and weaknesses between 1989 and 1990 are slight.

Migrant Status: The average Basic Battery scores of migrant students were below the national norm at all grades except first grade. The average scores tended to be highest in the early grades.

The average scores of migrant students were below the national norm at

all grades tested in all content areas, with the exception of first grade mathematics. At 7 of the 9 grades tested, migrant students received their highest average scores in mathematics. Reading was a relative weakness, with average scores being below those for language and mathematics at 6 of the 9 grades tested.

LEP Status: The average Basic Battery scores of LEP students were below the national norm at all grades tested. Average scores tended to be highest in the early grades.

The average scores of LEP students were below the national norm at all grade levels tested in all content areas. At 5 grade levels, LEP students received their highest average score in mathematics. At the remaining 4 grade levels, LEP students received their highest average score in language. Reading was a relative weakness, with average reading scores being less than average mathematics or language scores at 6 of the 9 grades tested.

Program/Post High School Plans: For all of the content areas assessed, the average scores of grade 11 students classifying themselves as college preparatory exceeded those of students classifying themselves as vocational or general. The average scores for college preparatory students were approximately 20 NCE points higher than those of students classifying themselves as vocational or general. Differences in the average scores for vocational and general students varied by less than 1 NCE.

As a group, grade 11 students planning to pursue a four year college degree consistently scored higher than students planning to pursue a two year college degree, employment, or military service. A sizable proportion of grade 11 students (17.5%-17.9%) indicated they were undecided about their post high school plans. Across the content areas, this undecided group of students consistently scored higher than those students planning to seek a two year college degree or military or civilian employment. Reading was a relative strength of all groups, with average reading scores consistently higher than average language or mathematics scores.

When comparing 1990 data with corresponding data presented in The Appendix to the 1989 Statewide Test Results Summary Report, college preparatory students show score increases in reading and language but not mathematics. General students show score increases in reading and mathematics but not language. Vocational students show small score decreases in all three content areas. Reading scores for all post high school plan groups increased, while language scores increased only for those groups of students indicating they plan to pursue a four-year college degree, enter the military, or are undecided about their plans. Mathematics scores increased for all post high school plan groups except students planning to pursue a four-year college degree or students with other plans.

TWO-YEAR COMPARISON OF TEST RESULTS

Two-Year Comparison Of State Results By Grade

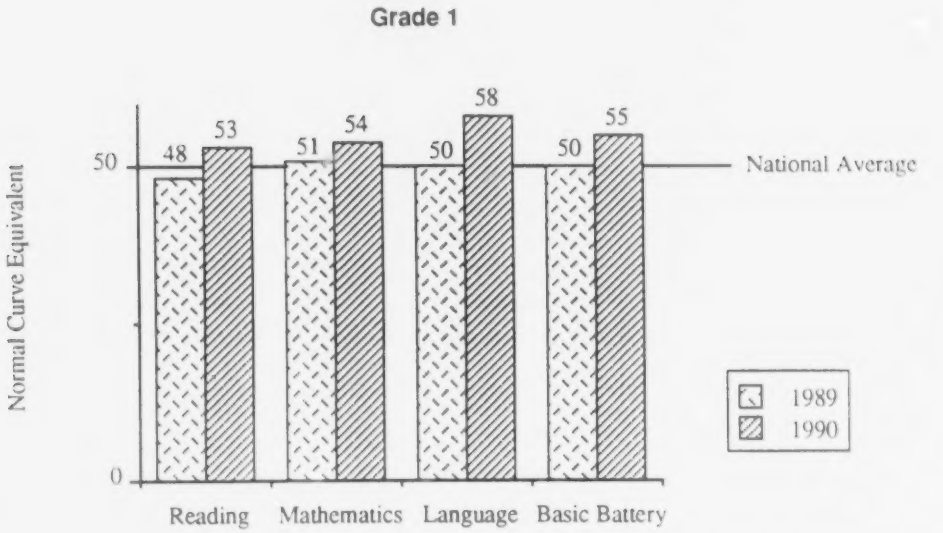
One of the important goals of the state assessment program is to monitor year-to-year achievement progress. Because parallel forms of the Stanford 8 were administered in 1989 and 1990, it is possible to make comparisons between test results for the two years.

The following graphs by grade (Figure 2) compare average test scores at the state level for 1989 and 1990. The score used is the normal curve equivalent (NCE) rounded to the nearest whole number. The national average NCE of 50 is indicated on the graphs.

Figure 2 reflects a cross-sectional analysis of achievement progress. In other words, the achievement of grade 1 students in 1989 is compared to the achievement of grade 1 students in 1990, the achievement of grade 2 students in 1989 is compared to that of grade 2 students in 1990, and so forth. An analysis such as this allows for comparisons to be made relative to achievement progress at specific grade levels. Increases or decreases in average scores might be attributable to curricular or program changes in response to weaknesses identified during the 1989 state assessment. Differences might also be attributable to differences between the groups of students tested, i.e., between the group of first grade students in 1989 and the group of first grade students in 1990.

The graphs show that average Delaware student performance has generally improved. The greatest gains were made at grades 1 and 2. No change in performance was evidenced in Reading at grades 3 and 7 and English at grade 11.

Figure 2
Comparison of Content Areas by Grade, 1989-1990



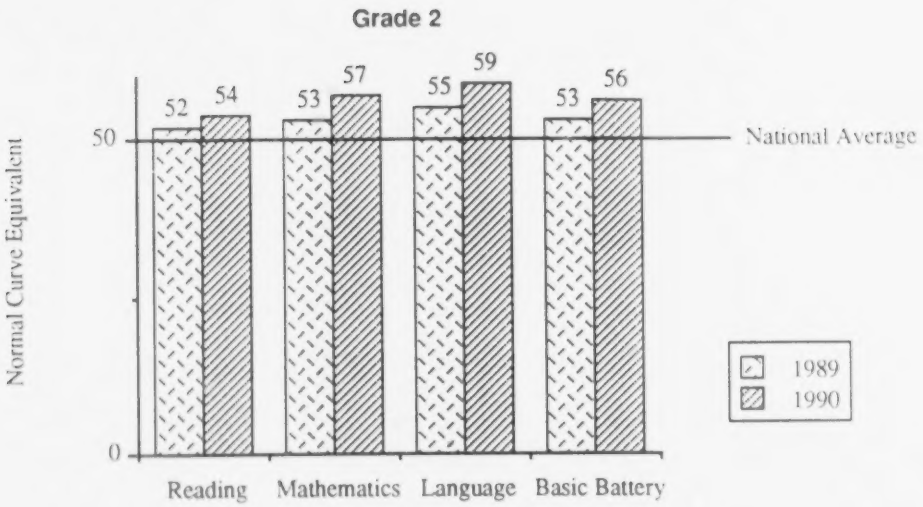
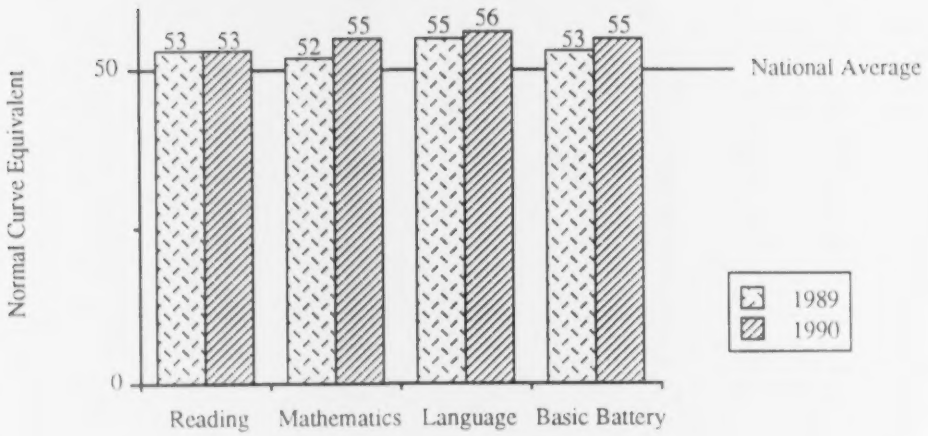


Figure 2 Continued
Grade 3



Grade 4

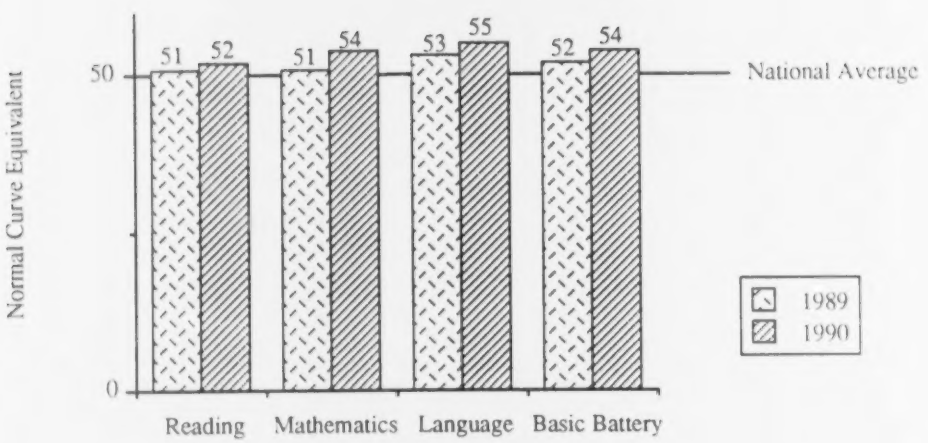
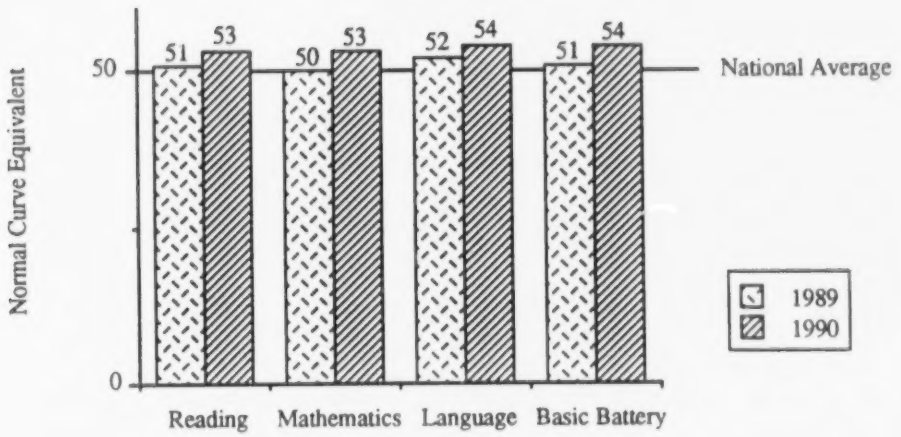


Figure 2 Continued
Grade 5



Grade 6

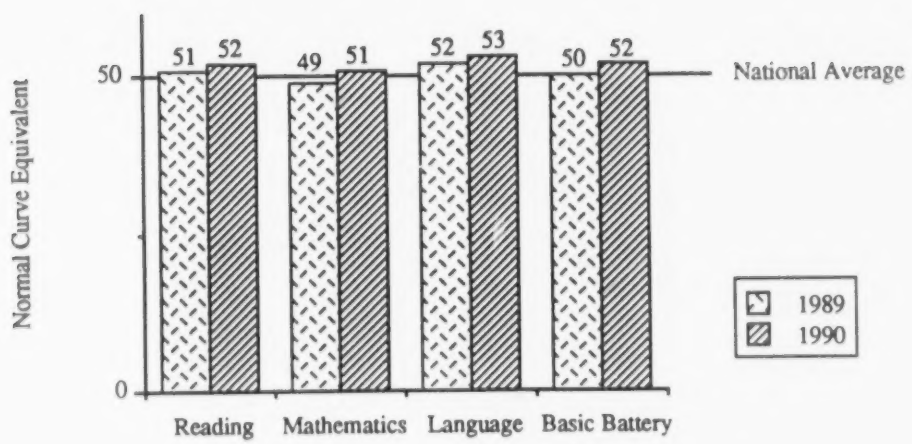
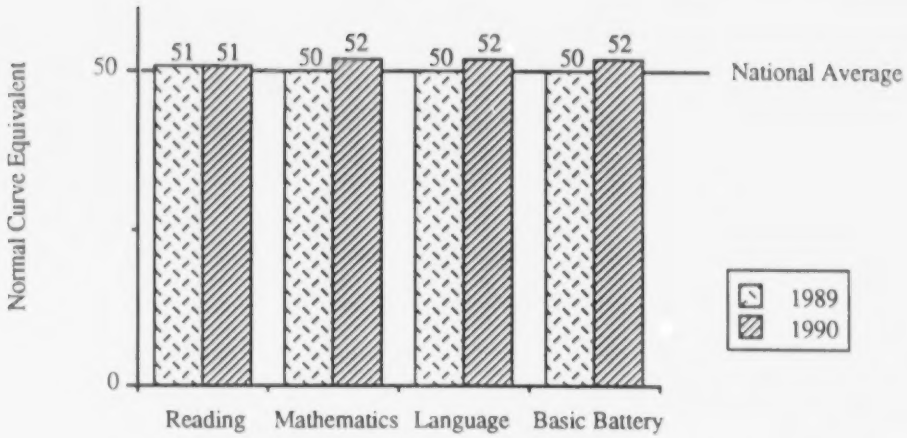


Figure 2 Continued
Grade 7



Grade 8

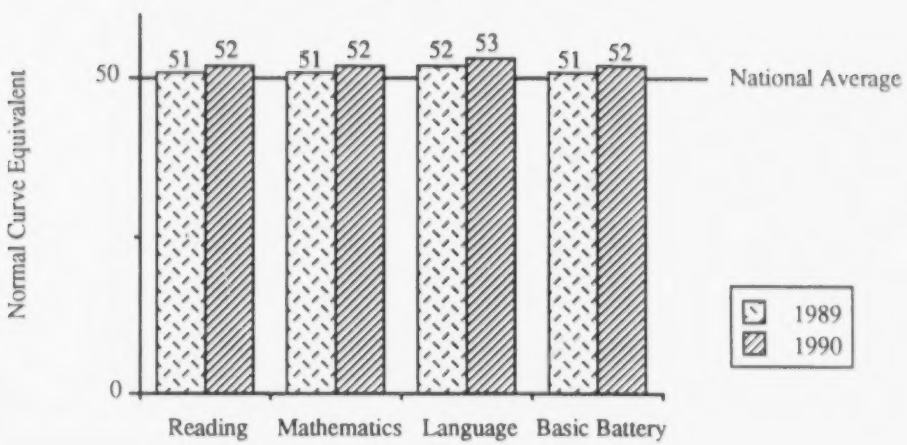
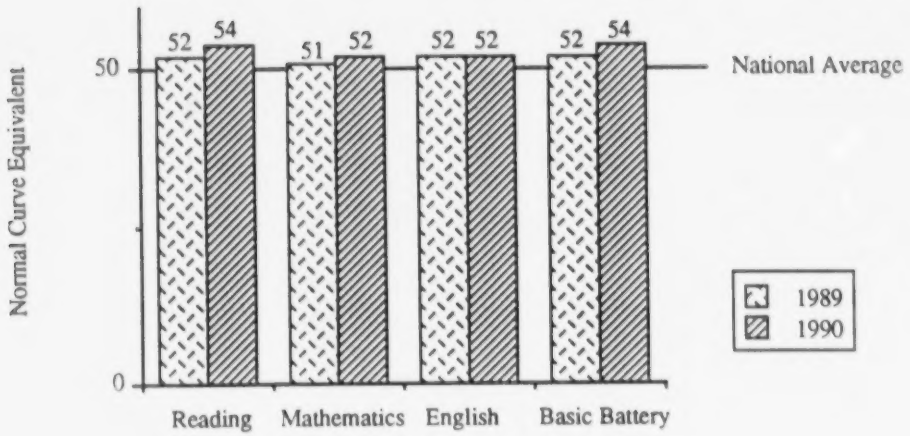
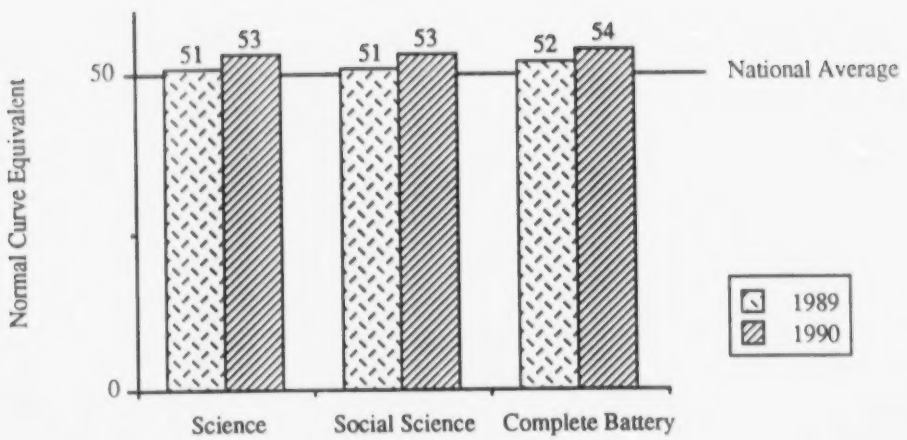


Figure 2 Continued
Grade 11



Grade 11



Two-Year Comparison Of State And District Results By Quartile

A two-year comparison of the percent of Delaware students scoring within each quartile is a valuable supplement to a state-level two-year comparison of average NCE scores by grade and content area. A year-to-year comparison of NCE scores is one tool for monitoring achievement progress but fails to indicate which students are contributing to the progress being made.

Table 11 indicates by grade the percent of Delaware students scoring in each of the four quartiles for Basic Battery in 1989 and 1990. Quartile 1 spans national percentile scores ranging from 1 to 25, Quartile 2 spans scores from 26 to 50, Quartile 3 spans scores from 51 to 75, and Quartile 4 spans scores from 76 to 99. The tables also indicate the net change (Δ) in the percent of students scoring in each quartile from 1989 to 1990.

Table 11 also indicates by grade by district the percent of students scoring in each quartile for the Basic Battery in 1989 and 1990. This allows for comparisons to be made between changes in the distributions of achievement scores at both the state and district levels.

Twenty-seven percent of Delaware first graders, for example, scored in the lowest quartile in 1989 as compared with 19% in 1990. Therefore, at the state level, there was a net decrease of 8%, i.e., a smaller proportion of Delaware first grade students scored in the lowest quartile in 1990. Similarly, 24% of Delaware first graders scored in the highest quartile in 1989 as compared with 31% in 1990. A higher proportion of students (7%) scored in the highest quartile in 1990. Negative numbers are therefore desirable in the column showing the net change in the percent of students scoring in quartile 1. Positive numbers are desirable in the column reflecting the net change in the percent of students scoring in quartile 4.

State-level data from Table 11 indicates that, at all grade levels, a smaller proportion of students scored in the lowest quartile in 1990 than in 1989. A larger proportion of students, across all grade levels, scored in the highest quartile. The greatest improvement in scores occurred at first grade.

Table 11
Cross-Sectional Comparison by District
Percent of Students in Each Quartile
Basic Battery

Grade 1

District	Quartile 1			Quartile 2			Quartile 3			Quartile 4		
	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ
STATE	**27**	**19**	**-8**	**26**	**24**	**-2**	**23**	**26**	**3**	**24**	**31**	**7**
Appoquinimink	25	13	-12	31	22	-9	25	37	12	19	28	9
Brandywine	21	15	-6	20	18	-2	24	25	1	35	41	6
Caesar Rodney	25	19	-6	29	22	-7	27	34	7	18	25	7
Cape Henlopen	27	8	-19	25	22	-3	22	25	3	26	45	19
Capital	32	23	-9	28	29	1	25	27	2	15	22	7
Christina	25	22	-3	26	24	-2	24	23	-1	25	31	6
Colonial	28	17	-11	27	29	2	25	29	4	20	25	5
Delmar	-	-	-	-	-	-	-	-	-	-	-	-
Indian River	21	15	-6	29	20	-9	21	25	4	29	41	12
Lake Forest	21	12	-9	33	28	-5	24	25	1	22	35	13
Laurel	49	26	-23	19	37	18	12	23	11	20	14	-6
Milford	36	22	-14	20	28	8	19	20	1	25	30	5
NCC Vocational-Technical	-	-	-	-	-	-	-	-	-	-	-	-
Red Clay Consolidated	30	20	-10	23	23	0	21	25	4	26	32	6
Seaford	22	22	0	29	21	-8	25	26	1	24	31	7
Smyrna	25	16	-9	25	23	-2	24	32	8	26	29	3
Woodbridge	45	27	-18	29	23	-6	18	31	13	8	19	11

Grade 2

District	Quartile 1			Quartile 2			Quartile 3			Quartile 4		
	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ
STATE	**20**	**16**	**-4**	**25**	**24**	**-1**	**26**	**25**	**-1**	**29**	**35**	**6**
Appoquinimink	16	17	1	31	21	-10	25	30	5	28	33	5
Brandywine	14	11	-3	20	21	1	26	21	-5	40	47	7
Caesar Rodney	18	12	-6	27	21	-6	29	34	5	26	34	8
Cape Henlopen	16	6	-10	26	20	-6	27	27	0	31	47	16
Capital	28	17	-11	26	30	4	27	28	1	19	26	7
Christina	20	19	-1	25	23	-2	26	24	-2	29	34	5
Colonial	18	16	-2	28	29	1	28	28	0	26	27	1
Delmar	-	-	-	-	-	-	-	-	-	-	-	-
Indian River	15	9	-6	25	21	-4	27	29	2	33	41	8
Lake Forest	18	11	-7	23	31	8	29	29	0	31	30	-1
Laurel	21	32	11	29	23	-6	29	17	-12	21	28	7
Milford	30	16	-14	20	33	13	19	19	0	31	33	2
NCC Vocational-Technical	-	-	-	-	-	-	-	-	-	-	-	-
Red Clay Consolidated	25	21	-4	23	23	0	21	21	0	31	35	4
Seaford	22	21	-1	27	30	3	25	24	-1	26	26	0
Smyrna	12	11	-1	29	28	-1	34	30	-4	24	32	8
Woodbridge	24	16	-8	26	37	11	29	29	0	21	19	-2

Table 11 Continued
Grade 3

District	Quartile 1			Quartile 2			Quartile 3			Quartile 4		
	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ
STATE	**19**	**17**	**-2**	**26**	**24**	**-2**	**25**	**27**	**2**	**29**	**32**	**3**
Appoquinimink	18	15	-3	27	25	-2	25	26	1	31	34	3
Brandywine	15	14	-1	23	18	-5	24	26	2	38	42	4
Caesar Rodney	15	10	-5	28	26	-2	25	32	7	32	31	-1
Cape Henlopen	13	11	-2	24	22	-2	29	34	5	35	33	-2
Capital	21	17	-4	31	25	-6	23	30	7	24	27	3
Christina	20	20	0	27	26	-1	25	25	0	28	30	2
Colonial	21	18	-3	30	27	-3	29	27	-2	21	28	7
Delmar	-	-	-	-	-	-	-	-	-	-	-	-
Indian River	16	11	-5	27	21	-6	26	32	6	30	36	6
Lake Forest	23	21	-2	24	23	-1	30	30	0	23	26	3
Laurel	25	25	0	25	26	1	25	28	3	25	21	-4
Milford	28	28	0	20	21	1	26	21	-5	27	31	4
NCC Vocational-Technical	-	-	-	-	-	-	-	-	-	-	-	-
Red Clay Consolidated	21	21	0	22	24	2	23	24	1	34	31	-3
Seaford	22	17	-5	29	21	-8	25	26	1	24	36	12
Smyrna	15	9	-6	28	22	-7	29	39	10	27	30	3
Woodbridge	24	17	-7	33	23	-10	26	31	5	17	29	12

Grade 4

District	Quartile 1			Quartile 2			Quartile 3			Quartile 4		
	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ
STATE	**22**	**20**	**-2**	**27**	**25**	**-2**	**25**	**27**	**2**	**25**	**28**	**3**
Appoquinimink	16	11	-5	21	25	4	34	32	-2	29	31	2
Brandywine	17	22	5	26	18	-8	23	25	2	34	36	2
Caesar Rodney	18	12	-6	26	24	-2	28	32	4	28	32	4
Cape Henlopen	20	16	-4	24	18	-6	30	27	-3	25	38	13
Capital	20	17	-3	31	30	-1	25	26	1	24	26	2
Christina	23	24	1	29	27	-2	25	25	0	23	24	1
Colonial	23	21	-2	33	31	-2	27	29	2	17	19	2
Delmar	-	-	-	-	-	-	-	-	-	-	-	-
Indian River	21	18	-3	31	28	-3	25	27	2	23	27	4
Lake Forest	17	19	2	23	27	4	29	31	2	32	22	-10
Laurel	32	17	-15	30	23	-7	20	29	9	17	30	13
Milford	21	21	0	26	26	0	23	18	-5	30	35	5
NCC Vocational-Technical	-	-	-	-	-	-	-	-	-	-	-	-
Red Clay Consolidated	27	22	-5	23	22	-1	24	25	1	26	31	5
Seaford	29	23	-6	31	28	-3	19	24	5	22	25	3
Smyrna	24	13	-11	19	25	6	32	34	2	25	29	4
Woodbridge	23	17	-6	30	38	8	24	26	2	24	18	-6

Table 11 Continued

Grade 5

District	Quartile 1			Quartile 2			Quartile 3			Quartile 4		
	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ
STATE	**24**	**20**	**-4**	**26**	**25**	**-1**	**24**	**26**	**2**	**27**	**28**	**1**
Appoquinimink	31	19	-12	25	23	-2	23	28	5	21	31	10
Brandywine	17	16	-1	24	21	-3	24	27	3	36	37	1
Caesar Rodney	17	20	3	24	24	0	27	28	1	32	28	-4
Cape Henlopen	22	20	-2	22	20	-2	30	26	-4	27	34	7
Capital	26	27	1	26	27	1	24	23	-1	24	23	-1
Christina	24	23	-1	27	27	0	24	25	1	25	25	0
Colonial	23	19	-4	32	29	-3	26	30	4	19	22	3
Delmar	-	-	-	-	-	-	-	-	-	-	-	-
Indian River	20	18	-2	24	26	2	22	29	7	33	28	-5
Lake Forest	22	14	-8	30	22	-8	25	31	6	23	33	10
Laurel	42	21	-21	22	38	16	18	16	-2	18	25	7
Milford	33	20	-13	22	26	4	22	26	4	23	29	6
NCC Vocational-Technical	-	-	-	-	-	-	-	-	-	-	-	-
Red Clay Consolidated	27	20	-7	22	23	1	22	24	2	29	32	3
Seaford	28	25	-3	27	28	1	17	22	5	27	26	-1
Smyrna	23	19	-4	26	24	-2	21	29	8	29	28	-1
Woodbridge	26	22	-4	32	30	-2	24	28	4	18	21	3

Grade 6

District	Quartile 1			Quartile 2			Quartile 3			Quartile 4		
	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ
STATE	**25**	**24**	**-1**	**26**	**24**	**-2**	**24**	**25**	**1**	**25**	**27**	**2**
Appoquinimink	22	27	5	32	25	-7	21	28	7	25	21	-4
Brandywine	20	17	-3	21	21	0	24	25	1	35	37	2
Caesar Rodney	19	18	-1	29	21	-8	27	30	3	24	31	7
Cape Henlopen	21	14	-7	21	23	2	27	28	1	32	35	3
Capital	30	28	-2	27	22	-5	24	27	3	19	23	4
Christina	24	25	1	26	25	-1	25	25	0	24	25	1
Colonial	32	30	-2	29	33	4	23	23	0	15	13	-2
Delmar	-	-	-	-	-	-	-	-	-	-	-	-
Indian River	19	12	-7	22	20	-2	24	31	7	35	38	3
Lake Forest	26	23	-3	26	29	3	28	25	-3	19	24	5
Laurel	34	35	1	28	25	-3	23	22	-1	16	19	3
Milford	23	19	-4	23	33	10	24	23	-1	29	24	-5
NCC Vocational-Technical	-	-	-	-	-	-	-	-	-	-	-	-
Red Clay Consolidated	27	28	1	23	20	-3	21	23	2	29	29	0
Seaford	37	31	-6	25	25	0	17	20	3	21	23	2
Smyrna	31	25	-6	29	27	-2	30	24	-6	10	24	14
Woodbridge	21	27	6	38	29	-9	25	23	-2	17	22	5

Table 11 Continued

Grade 7

District	Quartile 1			Quartile 2			Quartile 3			Quartile 4		
	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ
STATE	**25**	**24**	**-1**	**26**	**25**	**-1**	**25**	**24**	**-1**	**24**	**27**	**3**
Appoquinimink	16	21	5	34	28	-6	26	23	-3	25	28	3
Brandywine	22	20	-2	25	22	-3	22	25	3	31	34	3
Caesar Rodney	19	22	3	29	25	-4	27	26	-1	25	27	2
Cape Henlopen	16	16	0	22	25	3	28	28	0	34	32	-2
Capital	25	30	5	29	26	-3	25	23	-2	21	20	-1
Christina	28	25	-3	24	27	3	27	24	-3	21	24	3
Colonial	27	25	-2	35	30	-5	23	27	4	15	18	3
Delmar	29	31	2	31	28	-3	19	24	5	21	17	-4
Indian River	26	17	-9	25	24	-1	24	27	3	25	32	7
Lake Forest	29	20	-9	16	36	20	31	21	-10	24	23	-1
Laurel	31	28	-3	30	24	-6	22	28	6	17	20	3
Milford	28	21	-7	20	20	0	26	26	0	26	34	8
NCC Vocational-Technical	-	-	-	-	-	-	-	-	-	-	-	-
Red Clay Consolidated	28	26	-2	22	19	-3	23	21	-2	28	35	7
Seaford	30	28	-2	22	21	-1	19	21	2	29	31	2
Smyrna	23	23	0	26	29	3	28	24	-4	23	23	0
Woodbridge	21	38	17	32	26	-6	28	18	-10	19	18	-1

Grade 8

District	Quartile 1			Quartile 2			Quartile 3			Quartile 4		
	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ
STATE	**25**	**23**	**-2**	**25**	**25**	**0**	**24**	**23**	**-1**	**26**	**29**	**3**
Appoquinimink	25	21	-4	26	32	6	21	23	2	28	24	-4
Brandywine	24	23	-1	22	21	-1	22	20	-2	33	36	3
Caesar Rodney	20	18	-2	28	28	0	24	23	-1	29	32	3
Cape Henlopen	19	19	0	25	17	-8	23	27	4	33	36	3
Capital	28	26	-2	27	31	4	23	20	-3	22	24	2
Christina	28	24	-4	25	25	0	25	25	0	22	26	4
Colonial	29	25	-4	27	34	7	27	21	-6	17	20	3
Delmar	29	33	4	32	18	-14	22	29	7	17	20	3
Indian River	21	22	1	25	24	-1	29	25	-4	25	29	4
Lake Forest	26	20	-6	24	18	-6	30	35	5	20	27	7
Laurel	32	27	-5	36	33	-3	17	21	4	16	19	3
Milford	17	20	3	23	22	-1	30	28	-2	30	30	0
NCC Vocational-Technical	-	-	-	-	-	-	-	-	-	-	-	-
Red Clay Consolidated	25	25	0	21	19	-2	23	22	-1	32	34	2
Seaford	25	22	-3	26	20	-6	20	22	2	29	36	7
Smyrna	19	18	-1	21	29	8	26	20	-6	34	32	-2
Woodbridge	20	30	10	47	32	-15	15	15	0	18	23	5

Table 11 Continued
Grade 11

District	Quartile 1			Quartile 2			Quartile 3			Quartile 4		
	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ
STATE	**22**	**20**	**-2**	**26**	**24**	**-2**	**26**	**27**	**1**	**25**	**29**	**4**
Appoquinimink	25	16	-9	28	34	6	25	29	4	22	20	-2
Brandywine	17	14	-3	24	22	-2	24	24	0	35	40	5
Caesar Rodney	19	15	-4	26	21	-5	27	33	6	29	31	2
Cape Henlopen	22	21	-1	25	20	-5	30	26	-4	24	33	9
Capital	20	22	2	27	24	-3	26	24	-2	28	30	2
Christina	20	19	-1	21	23	2	28	25	-3	31	33	2
Colonial	19	21	2	29	25	-4	27	30	3	25	23	-2
Delmar	29	30	1	32	28	-4	21	20	-1	18	22	4
Indian River	27	19	-8	32	28	-4	23	27	4	18	26	8
Lake Forest	24	22	-2	35	23	-12	24	28	4	18	27	9
Laurel	27	19	-8	31	32	1	25	32	7	17	17	0
Milford	20	16	-4	28	28	0	22	25	3	30	30	0
NCC Vocational-Technical	32	33	1	36	38	2	25	22	-3	7	7	0
Red Clay Consolidated	20	15	-5	16	20	4	28	25	-3	36	40	4
Seaford	21	26	5	28	29	1	31	28	-3	19	16	-3
Smyrna	21	21	0	25	29	4	36	31	-5	18	20	2
Woodbridge	18	24	6	38	33	-5	28	24	-4	15	18	3

Two-Year Comparison Of State Results By Quartile For Major Content Areas

The two year comparison of state and district results by quartile provided on pages 43 through 48 provides data useful in assessing changes in the distribution of achievement test scores on the Basic Battery of the Stanford Achievement Test. The question might arise, however, whether such changes as noted are most attributable to changes in reading, language, or mathematics scores.

Table 12 provides a state-level two-year comparison of the percent of Delaware students scoring in each quartile by grade for the content areas of Reading, Language, and Mathematics. These data allow the reader to see the effect that changes in score distributions for the various content areas have had on score distributions for the Basic Battery.

The data in Table 12 reveal that the progress made by first grade students, 27% of whom scored in the lowest quartile on the Basic Battery in 1989, appears to have been caused more by achievement gains in language and reading than in mathematics, at least at the lower end of the distribution. At the upper end of the distribution, gains are attributable more to language and mathematics. Gains made by grade 8 and 11 students, at least at the lower end of the distribution, are caused more by gains in reading and mathematics.

Generally, across the grades, decreases in the percent of students scoring in the lowest quartile and increases in the percent of students scoring in the highest quartile are primarily attributable to achievement gains in mathematics, rather than in language or reading.

Table 12
State Cross-Sectional Comparison by Grade
Percent of Students in Each Quartile

Reading

	Quartile 1			Quartile 2			Quartile 3			Quartile 4		
Grade	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ
Grade 1	29	19	-10	28	27	-1	21	28	7	22	26	4
Grade 2	22	20	-2	26	25	-1	26	27	1	27	28	1
Grade 3	20	19	-1	26	25	-1	26	27	1	29	29	0
Grade 4	25	23	-2	26	27	1	26	27	1	24	24	0
Grade 5	23	21	-2	26	26	0	26	24	-2	25	29	4
Grade 6	24	21	-3	27	27	0	24	27	3	25	26	1
Grade 7	24	24	0	26	25	-1	25	23	-2	25	28	3
Grade 8	26	25	-1	23	24	1	25	22	-3	26	30	4
Grade 11	22	20	-2	27	23	-4	27	27	0	25	30	5

Language

	Quartile 1			Quartile 2			Quartile 3			Quartile 4		
Grade	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ
Grade 1	28	15	-13	23	21	-2	21	26	5	28	39	11
Grade 2	19	17	-2	24	17	-7	24	28	4	34	39	5
Grade 3	18	17	-1	26	23	-3	25	26	1	31	33	2
Grade 4	19	20	1	27	24	-3	28	23	-5	27	34	7
Grade 5	22	19	-3	26	24	-2	23	28	5	29	28	-1
Grade 6	21	22	1	26	24	-2	27	25	-2	26	28	2
Grade 7	25	22	-3	25	28	3	26	24	-2	23	26	3
Grade 8	23	23	0	27	21	-6	22	25	3	27	31	4
Grade 11	23	23	0	26	22	-4	25	25	0	26	29	3

Mathematics

	Quartile 1			Quartile 2			Quartile 3			Quartile 4		
Grade	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ	1989	1990	Δ
Grade 1	26	21	-5	24	23	-1	23	22	-1	27	34	7
Grade 2	23	16	-7	24	23	-1	24	25	1	28	35	7
Grade 3	23	19	-4	25	25	0	24	25	1	27	32	5
Grade 4	24	20	-4	28	25	-3	23	24	1	25	31	6
Grade 5	27	22	-5	25	26	1	23	25	2	25	28	3
Grade 6	27	25	-2	26	25	-1	23	23	0	23	27	4
Grade 7	26	24	-2	25	24	-1	25	24	-1	24	28	4
Grade 8	26	24	-2	23	23	0	26	24	-2	25	29	4
Grade 11	25	22	-3	24	25	1	25	28	3	26	25	-1

Two-Year Comparison Of State Results For Matched Groups

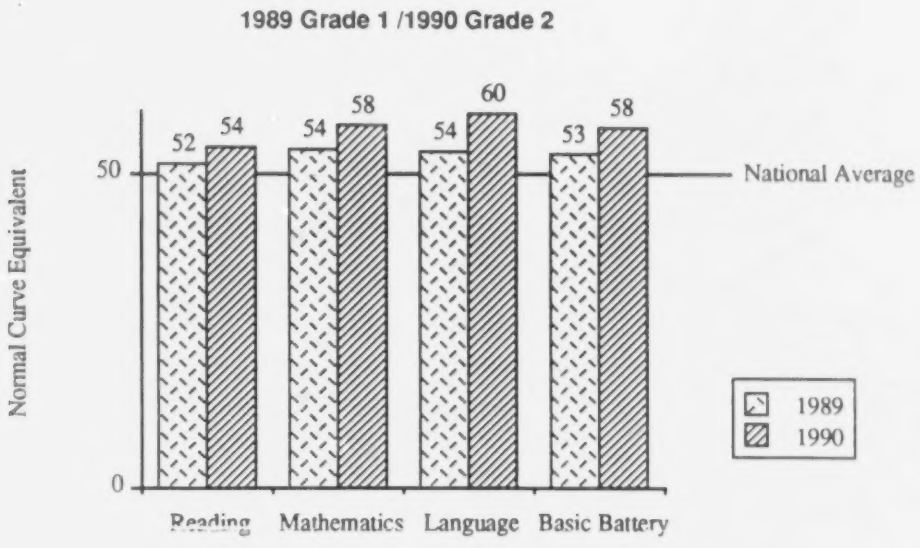
Figure 2 makes a comparison between the same grade in two consecutive years, i.e., compares the average scores for Delaware's seventh grade in 1989 with Delaware's seventh grade in 1990. While that information is interesting and useful, one might also be interested in looking at the progress of a group of students from grade to grade.

Figure 3 provides a longitudinal analysis of achievement progress, i.e., compares the achievement of Delaware first graders in 1989 with Delaware second graders in 1990, Delaware second graders in 1989 with Delaware third graders in 1990, and so forth. Such an analysis permits comparisions to be made between the achievement levels of matched groups of students from year to year.

To perform this analysis, the average of scores for matched samples of students were considered. If a student completed a content area test or the Basic Battery in either 1989 or 1990 but not in both years, his/her score was not included in the calculations.

The graphs indicate that average Delaware student performance has generally improved. For each matched group, average scores for the content areas and basic battery most frequently improved; in some cases average scores remained stable for a matched group from year to year. Only one matched group (1989 third graders/ 1990 fourth graders) evidenced any decrease in achievement; their Total Reading score decreased from 54 in 1989 to 52 in 1990.

Figure 3
State Comparison of Content Areas For Matched Groups



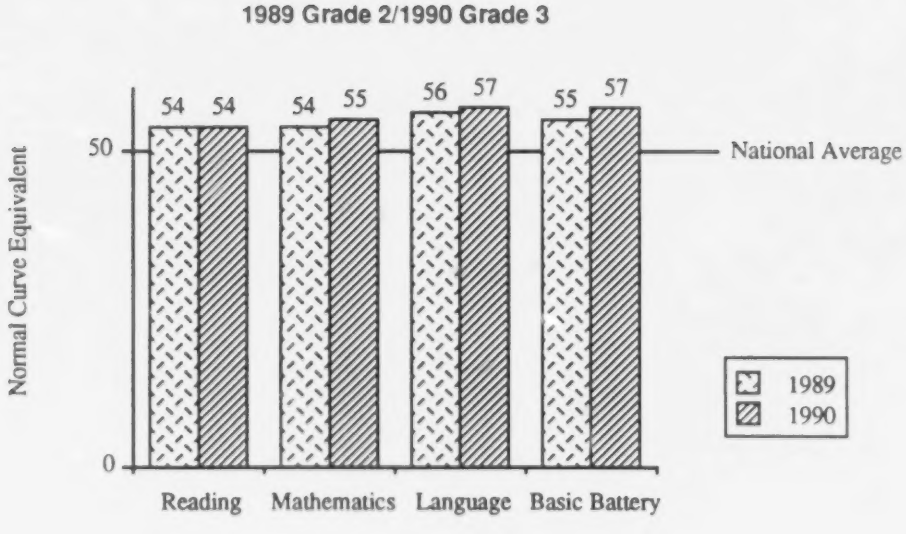
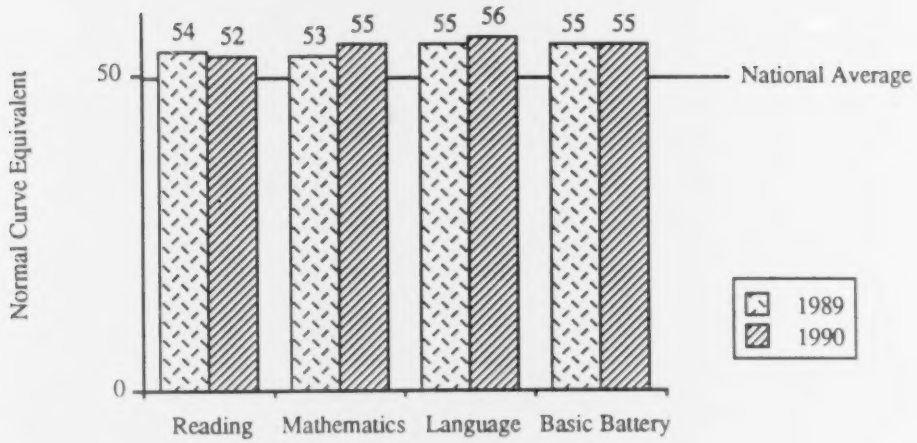


Figure 3 Continued
1989 Grade 3/1990 Grade 4



1989 Grade 4/1990 Grade 5

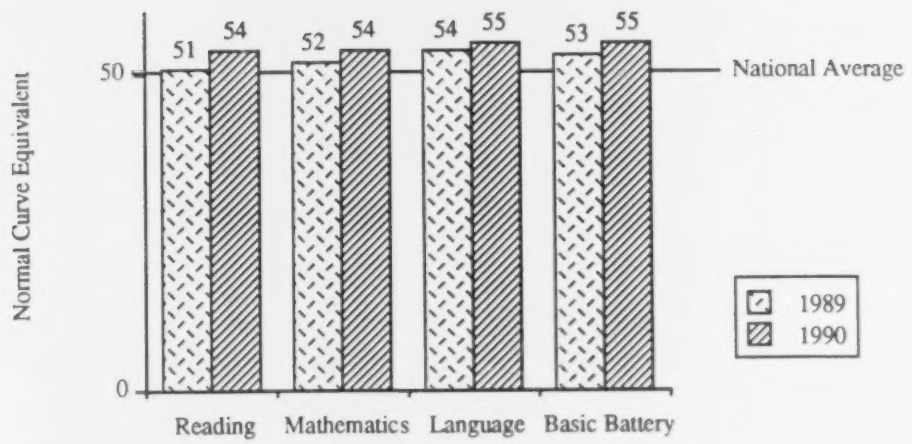
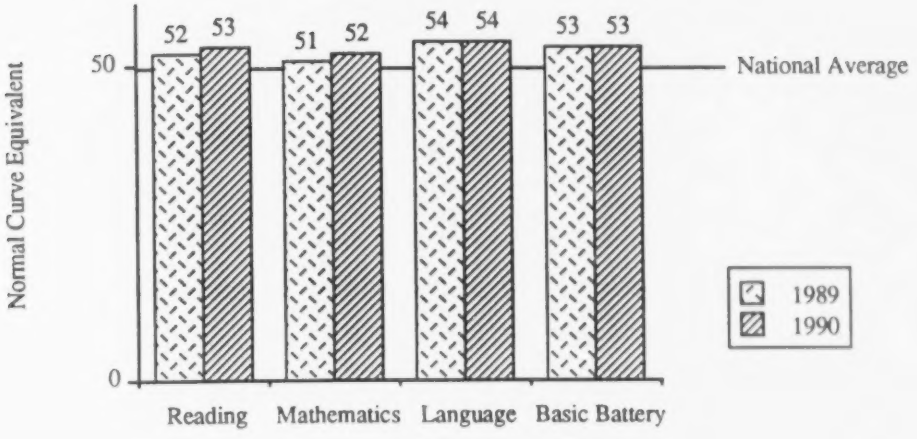


Figure 3 Continued
1989 Grade 5/1990 Grade 6



1989 Grade 6/1990 Grade 7

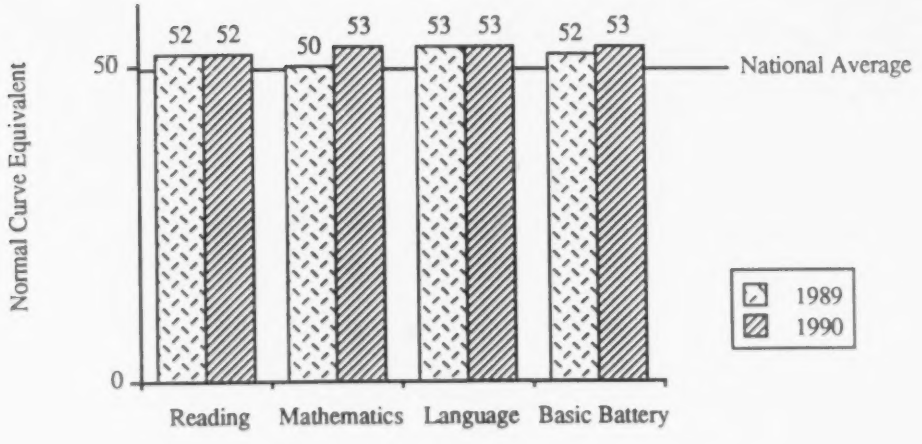
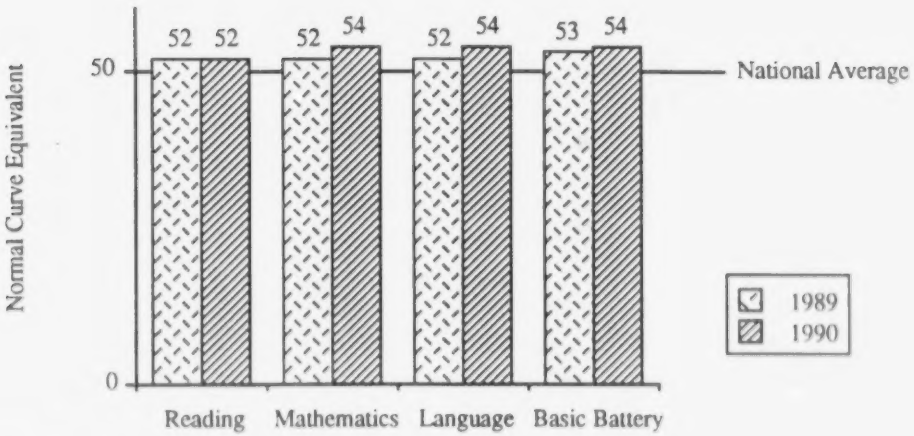


Figure 3 Continued
1989 Grade 7/1990 Grade 8



SUMMARY OF RESULTS

The test results presented in this report indicate that the average Delaware student in grades 1-8 and 11 is performing above the national norm in reading, mathematics, and language arts. Average scores for higher order thinking skills are also consistently above the national norm.

Reading Comprehension scores generally exceed Reading Vocabulary scores, while Language Expression scores exceed Language Mechanics scores. Total Language scores are higher than Total Reading scores at 8 of the 9 grades tested. Total Language scores also exceed Total Mathematics scores at 8 of the 9 grades tested.

Further analyses reveal that Delaware students compare favorably with the national sample in other respects. Generally, when compared with students from the national sample, a higher percent of Delaware students provided correct responses to items measuring the test objectives. A higher percent of Delaware students also scored in the highest quartile and a lower percent in the lowest quartile when compared with the national sample.

Two-year comparisons of test results show that the achievement of Delaware students has generally improved. A comparison of test results by grade indicates that:

- the greatest gains were made by students in grades 1 and 2.
- generally, a smaller proportion of students across the grades and content areas scored in the lowest quartile in 1990 than in 1989. A larger proportion of students scored in the highest quartile in 1990.
- when matched groups of students are compared from 1989 to 1990, the average performance of Delaware students generally improved. For certain content areas for some groups, average scores remained stable. A decrease in average test scores was only noted for one group for one content area.

The complete report of the statewide testing program titled **Delaware Educational Assessment Program 1990 Report To The Legislature** will be available in December, 1990. It contains school, district and state results as well as analysis of strengths and weaknesses for each Delaware school district. To obtain a copy, contact the Research and Evaluation Division of the Delaware State Department of Public Instruction, John G. Townsend Building, P.O. Box 1402, Dover, Delaware 19903.

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